



City Council of Nairobi

Kenya



The Twenty-fifth Annual Report
of

The Medical Officer of Health



1954

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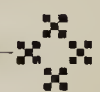


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Kenya



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Barot Mansion,
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NAIROBI.

7th Nov. 1955

The Worshipful the Mayor,
Aldermen and Councillors,
City Council of Nairobi.

Your Worship, Aldermen and Councillors,

I have the honour to present to you my Annual Report on the sanitary circumstances, sanitary administration, vital statistics and the state of the public health of the City of Nairobi for the year 1954, as required by the "Municipalities Ordinance, 1948" "The Medical Officers of Health Rules Section 2 (12 d.)."

A. T. G. THOMAS,
M.D., B.S., D.P.H.,
Medical Officer of Health

PUBLIC HEALTH COMMITTEE

DECEMBER 1954

Councillor Mrs. E. M. Rayner	...	...	Chairman
Alderman H. E. Nathoo, M.B.E.	...	...	Deputy Chairman

His Worship the Mayor, Alderman R. S. Alexander

The Deputy Mayor, Alderman I. Somen, M.B.E.

Alderman C. Udall, C.B.E.

Councillor Musa Amalemba

„ C. B. Blencowe

„ Ganga Singh Matharu

„ M. D. Gautama

„ S. Pandit

The District Commissioner, Mr. A. C. Small

The Officer in Charge, Nairobi Extra Provincial District, Mr. R.D.F. Ryland

CORRIGENDA.

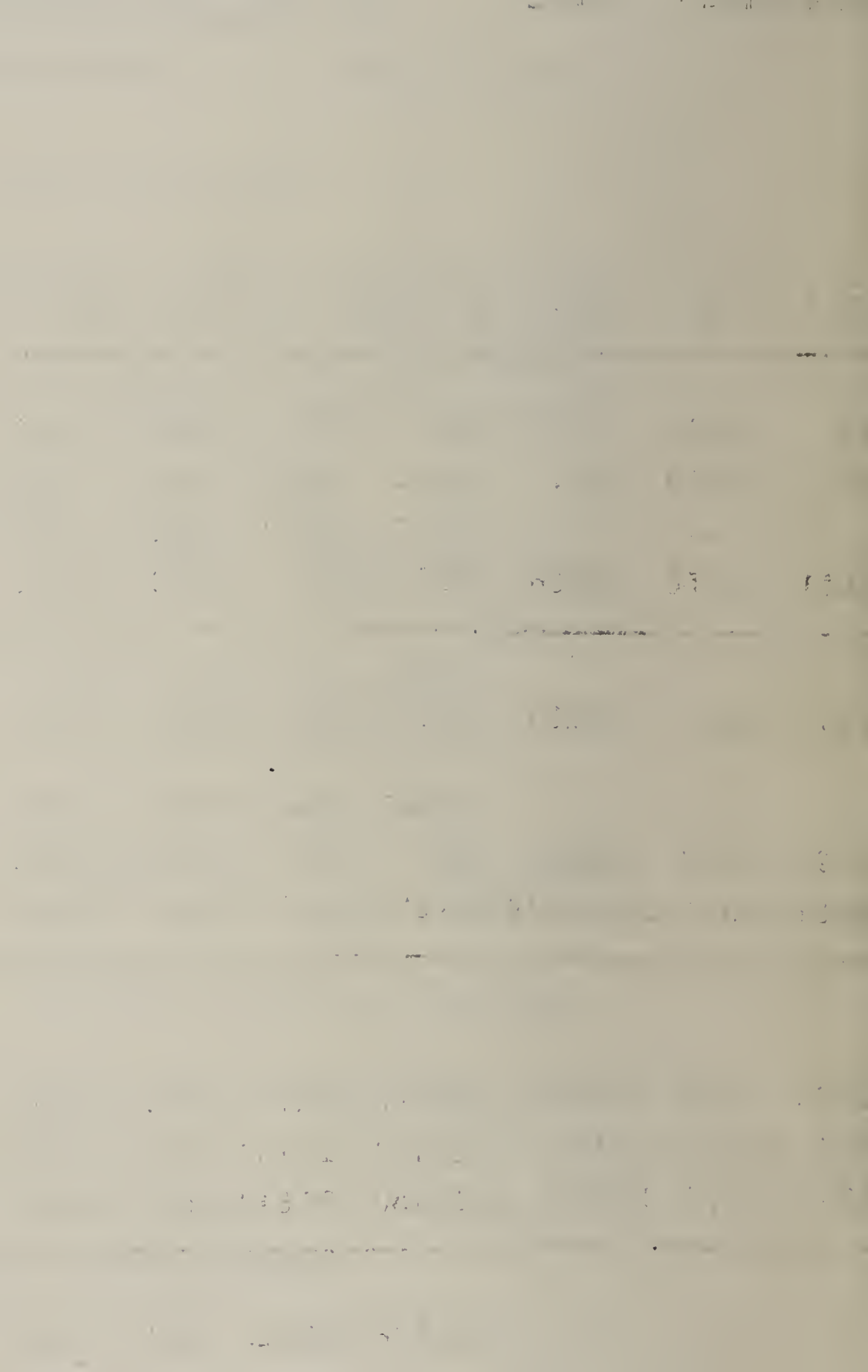
- Page 10, paragraph 5 — transpose line 4 to line 2.
- „ 21, No. 33 — “influenza” should read “influenzal pneumonia”.
- „ 21, No. 33 — delete “influenzal meningitis” once.
- „ 48, paragraph 2, line 4, should read — “. . . and caused more than usual. . . .”
- „ 50, delete present paragraph 4 and insert —
- “ The Cleansing Department should be empowered and required to sweep all roads and lanes whether adopted or not, to remove all refuse from such road reserves and to keep them in as hygienic a state as one would expect on roads adopted by Council.”
- „ 52, paragraph 6 — transpose lines 3 and 4.
- „ 59, paragraph 3, line 4 — “completed” should read “compensated”.
- „ 82, paragraph 4, line 1 — “food” should read “good”.
- „ 84, paragraph 3, line 9 — “the” should read “any”.
- „ 86, paragraph 1, line 8 — “leave” should read “level”.
- „ 86, paragraph 2, line 2 — should read — “. . . first part of. . . ”
- „ 87, paragraph 1, line 3 — “grouping” should read “growing”.
- „ 90, Causes of Stillbirth — Figures from above down to read —
19, 1, 2, 3, 5, 2, 3, 2, 1, 1, 40.
- „ 90, Causes of Death — delete “Gastroenteritis 24 4”
- „ 91, delete — “Cachexia and Cerebral diplegia.”
- „ 91 — for “40” read “44”.
- „ 105, Infant Deaths and Causes — “Prematurity”, for “47”
read “17”.
- „ 106, insert last line — “Total Abnormal cases treated 361”.
- „ 110, paragraph 5, line 1 — should read “. . . patients with. . .”
- „ 110, paragraph 6, line 2 — “7,552” should read “7,522”
- „ 110, paragraph 8, line 1 — “1,948” should read “1,348”.

African

	Kariokor	Muthuruwa	Kaloleni	Makongeni (including Maesha) 1-1-54—31-3-54	Maisha (1-4-54—31-12-54)	Bahati V.	Bahati (P.W.D.) Reopened 18-1-54	P. & T. (all day from 4-1-54)
ANTE-NATAL								
New cases	371	263	350	226	62	341	98	134
Births at home	96	46	50	86	59	54	17	24
Births in hospital	55	45	91	29	14	57	26	17
Total attendances	1,057	776	880	695	220	728	250	330
INFANT WELFARE:								
0—1 New cases	339	192	317	224	95	267	116	166
0—1 Transfers to P.S. Register	73	66	22	30	40	5	13	—
1—5 New cases	357	305	298	248	156	461	233	260
Total attendances	4,252	3,785	2,853	2,400	1,642	2,071	1,221	1,498
HOME VISITS: (20-10-54—31-12-54)								
By Health Visitors	170	130	106	93	59	2	55	154
By African Assistants	431	291	243	134	120	210	187	253
Total	601	421	349	227	179	212	242	407
DISPENSARY:								
Women — new	358	375	445	419	132	288	127	119
Women — repeat	847	734	997	1,766	615	720	530	322
Children — new	1,567	1,154	1,483	1,195	727	1,170	683	797
Children — repeat	8,966	5,181	10,373	11,346	5,094	6,009	6,437	5,147
Attendances for tonics	892	1,112	985	2,129	1,192	969	440	787
Total attendances	12,630	8,556	14,283	16,857	7,760	9,156	8,217	7,172

RT OF SECTION
Child Welfare - 1954
STATISTICAL TABLE

1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
170	536	771	1,184	1,178	1,379	1,735	2,098	2,194	1,639	1,845
282	337	282	422	475	428	382	491	803	532	432
—	—	—	276	326	332	226	231	363	324	334
512	2,567	3,864	4,637	4,932	5,148	5,634	5,448	5,492	4,447	4,936
748	1,226	1,352	1,492	2,262	1,475	1,576	1,888	1,696	1,534	1,716
—	—	—	247	346	397	343	363	429	262	249
934	1,353	1,018	1,337	1,387	1,194	1,831	2,285	1,753	1,259	2,318
320	50,518	33,949	33,823	32,195	29,025	33,798	37,673	25,908	13,626	19,722
212	6,612	10,384	9,292	6,712	5,278	5,012	4,751	3,609	576	769
218	10,140	11,054	15,158	16,130	15,865	15,399	22,343	16,660	3,880	1,869
130	16,752	21,438	24,450	22,842	21,143	20,411	27,094	20,269	4,456	2,638
—	—	—)	4,846	7,229	4,867	6,499	2,293	2,276	1,840	2,263
—	—	—)	—	—	—	—	13,938	14,132	5,378	6,531
—	—	—)	27,927	38,861	28,163	36,763	8,341	8,457	6,592	8,776
—	—	—)	—	—	—	—	53,702	52,829	32,226	58,555
—	—	—	—	—	—	—	—	2,716	5,270	8,506
336	7,002	12,350	32,773	41,090	31,030	43,262	78,274	80,410	51,306	84,631





CITY COUNCIL OF NAIROBI
Kenya Colony,

With the Compliments
of
The Medical Officer of Health.

Public Health Department,
P.O. Box 3808,
Town Hall.
Nairobi.
Kenya.

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Section 1

INTRODUCTION

During the whole of the year to which this report relates the work of the Public Health Department was carried out against the background of the emergency. Perhaps the clearest indication of the situation is given by the following vital statistics —

Deaths from judicial hanging	...	...	622
Deaths from homicide	...	...	129
Deaths from traffic accidents	...	...	49

Trouble probably reached its height in the earlier months of the year building up to a climax in April with the tremendous upheaval occasioned by Operation "Anvil". This well executed manoeuvre by the forces of law and order had a significance not only in relation to the public safety, by purging the city of thugs and murderers, but there were a number of interesting repercussions in the field of public health in the city. Foremost amongst these was the acceptance of the principle of reorganising the African housing in the locations on a tribal basis. This is a move which may have quite far reaching effects. since one of the strongest influences in encouraging people to maintain their neighbourhood in a decent state is the force of example, and if one tribe, careless in its habits, sees, next door, a clean, bright and healthy neighbourhood they may feel stimulated to copy. This state of affairs could not come about when the different tribes, with varying standards of behaviour, were intricately mixed.

Another strong influence, not directly related to Operation "Anvil", but very much related to the emergency, was the completion of the enclosure of the locations in barbed wire. A scheme for this, in relation to certain of the Council's housing areas had been long before recommended to the City Council, but had been rejected. The emergency brought a new approach, and it was realised that no sentimental objections could outweigh the value of fencing, partly as a method of controlling violence, but also as an aid to apportioning sanitary responsibility to dwellers in each area. It is hoped that this policy will be pursued in the future and all locations designed so that, either by the arrangement of the buildings or by the provision of sound fencing, the movements of the population can be fully controlled.

It is only by realistic measures such as this that anything can ever be accomplished in dealing with the chronic and voluntary overcrowding which has been a feature of life in the African locations ever since they came into existence.

The part played by the staff of the Public Health Department and other members of the Council's staff in Operation "Anvil" certainly deserves mention. Although the displacement and transit of some 25,000

persons over a short period inevitably involved serious public health problems, and therefore naturally greatly concerned the department, the efforts of the staff went much beyond simply coping with the sanitary aspects of the situation. Most of them put in many hours of voluntary work on welfare services, such as the feeding and care of children, and it would have been pleasing to have recorded that their efforts met with any evidence of gratitude or appreciation from the objects of their attentions. The great deal of hard work also put in by the British Red Cross and the St. John Ambulance Association was similarly regarded with some hostility.

As might have been expected, the effects of Operation "Anvil" were far reaching, and in some instances somewhat unexpected. Shortly after the Operation we were advised that cases of typhoid fever were occurring in some of the detention camps to which the displaced population were being transferred and we deemed it necessary to organise a widespread T. A. B. inoculation campaign.

The first appeals made to the African population yielded extremely small results and we asked the Information Office to put out some propaganda. This, apparently, was distorted by mischievous agencies and a report was circulated that people who did not receive inoculation were to be fined. The results were dramatic, and we were embarrassed to find numbers of about 1,600 Africans at a time invading the inoculation centre. This went on for a week or two but the final result was that a high degree of general immunity was obtained.

In another aspect of life in the Locations the public interest which had been directed towards them by events in the emergency brought about interesting results. This was in respect of housing conditions, and the effect here was to sharpen a sense of urgency in providing more and better housing, a need which has been emphasized by this department for many years but never received all the attention it deserved. The two slum areas, Pumwani and Kariokor, have enjoyed more publicity, and it seems possible that they will, within a measurable time, share the fate of some of the other abominable slums which were swept away in the earlier days of the emergency to the lasting benefit of all concerned. This aspect of our present development is considered so important that a special section of this report has been devoted to it and it will there be found discussed in greater detail.

Even greater advances were made in the adoption of a far more enlightened policy in regard to sanitation. The first step forward was the replacement of the highly unsatisfactory single bucket latrine system, in which buckets were never cleaned, but simply emptied, by the double bucket system whereby clean buckets are used, and no use is made of the insanitary and unsightly "master buckets". Much more

far reaching, however, was the adoption of the policy that in future all African housing will have, where possible, one flush closet per family unit. This will mean that ultimately the communal latrine blocks, which have given unending trouble for years, will eventually disappear. This is a great step forward since we have had abundant experience to show that communal latrines simply will not work when provided for a community in whom sanitary education and sense of civic responsibility are almost completely undeveloped. The individual latrine means individual responsibility, and this in turn means that they can be controlled, and that the outrageous sabotage and fouling which has been such a danger to health in the past will ultimately be overcome.

Yet another new feature of development in the African locations emerged during the year, and that was the emergence of a number of offers and proposals by various religious bodies for the development of large scale social welfare organisations for the benefit of the African population. These had existed on a smallish scale for quite a long time, but the new suggestions far outdistanced any previous schemes in their scope. Especially interesting was a proposal from one body to establish a moderate sized hospital in the locations.

The final development, which began to make itself felt towards the end of the year, was the ceasing of over-crowding in the locations, due to the removal by Operation "Anvil", of some 20,000 Kikuyu on the one hand, and later, restrictions placed upon their employment in the City as domestic servants and in other capacities. Although the tendency will be for employers to replace Kikuyu labour by members of other tribes there has been a general tendency towards economy in the numbers of Africans employed by various concerns and this may to some extent ease the demand for housing.

As regards our welfare work in the locations the atmosphere has undergone several fluctuations. Up till the time of Operation "Anvil", in April, crime had been rife and there was considerable tension, especially amongst our African staff. After "Anvil", however, the whole atmosphere showed a marked improvement, and it is most gratifying to record that in November it was found possible to reintroduce home visiting by European and African Health Visitors once again. This had had to be stopped since the beginning of the emergency for security reasons.

Turning now to matters outside the African locations, as in 1953 the alarms and exursions during the year had their inevitable repercussions upon the progress of various schemes and capital works, especially owing to the disturbed state of labour. Once again, however, it is pleasing to record that two projects were brought to a successful conclusion. One was the opening of High Ridge Day Nursery, designed to supply the same facilities for Asians as had been provided for Europeans, and another, the opening of the very much enlarged and improved Asian clinic

in Ngara Road. Thus the growth of the welfare services keeps pace with the increase in the population of the three races.

Following the occurrence of infection at the Indian Maternity Hospital, it became necessary to make representations to the Management Committee that it should be closed pending certain long overdue, improvements, and the Committee co-operated in this. In the discussions which ensued it became evident that for financial reasons it would be most desirable if the hospital, which was not under the direct control of the City Council, but managed by a voluntary Committee, should come under some more official control. The possibility of its being taken over by the Council was considered but the final decision was that it should be operated by the Asian Social Service League. Resources should thus become available for radical improvements and this must be considered as a very satisfactory conclusion to the negotiations.

As regards infectious diseases in the City, the period from January to March was marked by especial anxiety over the continuing occurrence of poliomyelitis, and in all there were 116 cases with 14 deaths. This was the worst outbreak for a good many years and lasted longer than those in our previous experience. It may well be that various strains of poliomyelitis and other virus diseases which become evident from time to time may be due to the fact that Nairobi is one of the busiest aerial crossroads in Africa, and that people arriving by air and staying for a period in the City bring with them infections against which local immunity is low. This seems to be the most reasonable explanation for the periodic outbreaks of ill defined disease which occur from time to time. Recently, for example, quite a large number of cases were diagnosed as Bornholm's disease. The impression is in fact that there are a great many aspects of virus infection about which extremely little is at present known, and that some local research could open up a large and extremely interesting field of study. Fortunately, except for poliomyelitis most of these virus diseases are non-fatal, and it is perhaps this feature which has caused them to receive less attention than the more dramatic types.

During the year, negotiations continued regarding the taking over by the Council of the responsibility for the dispensary services in the City from Government, and it is satisfactory to note that towards the end of the year finality was reached and plans were prepared with a view to building during 1955. The basis of these was the construction of four units, conveniently situated for dwellers in the African locations, at an overall cost of £20,000, Government paying the capital cost and giving a substantial grant for recurrent expenditure. The establishment of these dispensaries will have far reaching effects. Not only will the standard of treatment available to the African be very much improved, but the service will be far more conveniently available to him, and it is anti-

icipated that the demand may well run into half a million attendances a year.

Incidentally, it has been agreed from the outset that the service should be on a payment basis, patients paying a fee which, though not economic, will help towards the cost of the service. Equally important as this latter consideration is the fact that having to pay for a service very much enhances the value placed upon it by the individual African patient, and combats abuse and over demanding.

In parallel with this dispensary service, it is hoped that an attack can be started against the problem of tuberculosis. Such an attack is now overdue and the time has come when the ravages of this disease must be checked.

Further, the dispensaries will lend themselves as centres for the organisation of health and sanitary education directed especially to African males which will supplement the large amount of work at present carried out by the African Maternity and Child Welfare centres in relation to the African women and children.

Finally, it is hoped that the importance of an efficient curative service such as this will be appreciated from the point of view of practical economics. Although it appears at first glance to be a costly undertaking it is confidently anticipated that it will have a marked effect in reducing absenteeism from sickness amongst the African labour force employed by commerce and industry in the City, which will thus receive obvious benefit.

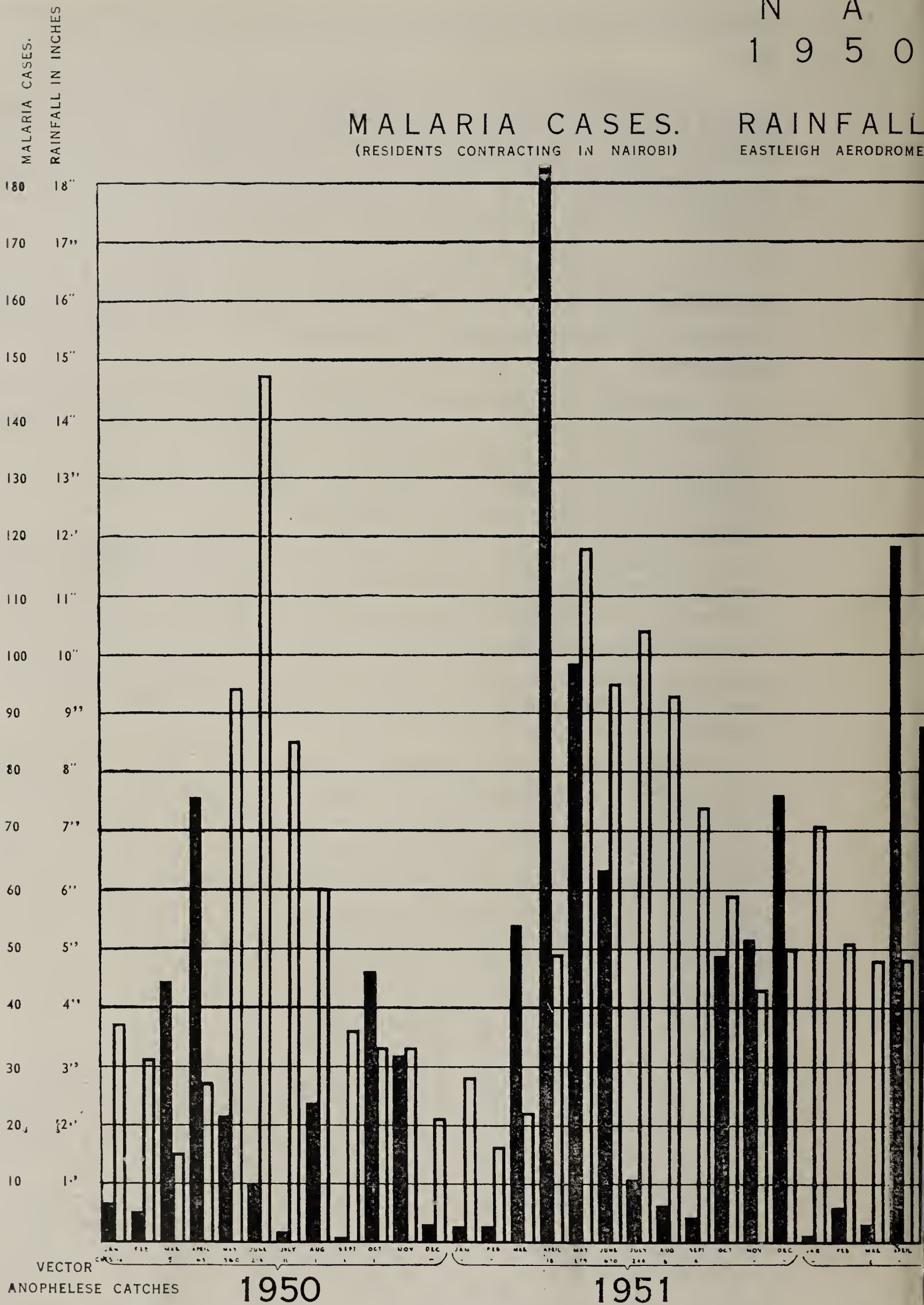
Two more events occurred in the Public Health Department which are worthy of brief mention. One was that in May the whole department moved from the Town Hall to a convenient building in Reata Road. The particular reason for this move was so that work could proceed on the construction of the new City Hall which it is hoped will be completed in 1957. A side effect, however, was to bring the whole department together for the first time into one unit instead of its being scattered as previously, partly in the Town Hall and partly in temporary wooden buildings. This in itself was very satisfactory and anticipated the ultimate organisation when the department moves finally into the new City Hall.

The second event of some importance was the transfer in September of the Cleansing Department to the City Engineer. There were two especial reasons for this, one was that with the advent of the dispensary services the commitments of the Public Health Department would be considerably increased, but also, and perhaps more importantly it had become evident that the system of divided control over transport as between the Public Health Department and the City Engineer's Department was unsatisfactory and uneconomic. It had been obvious for a long time that the branch of public cleansing which gave by far the most trouble and cost the most money was the refuse removal

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MALARIA CASES.
(RESIDENTS CONTRACTING IN NAIROBI)

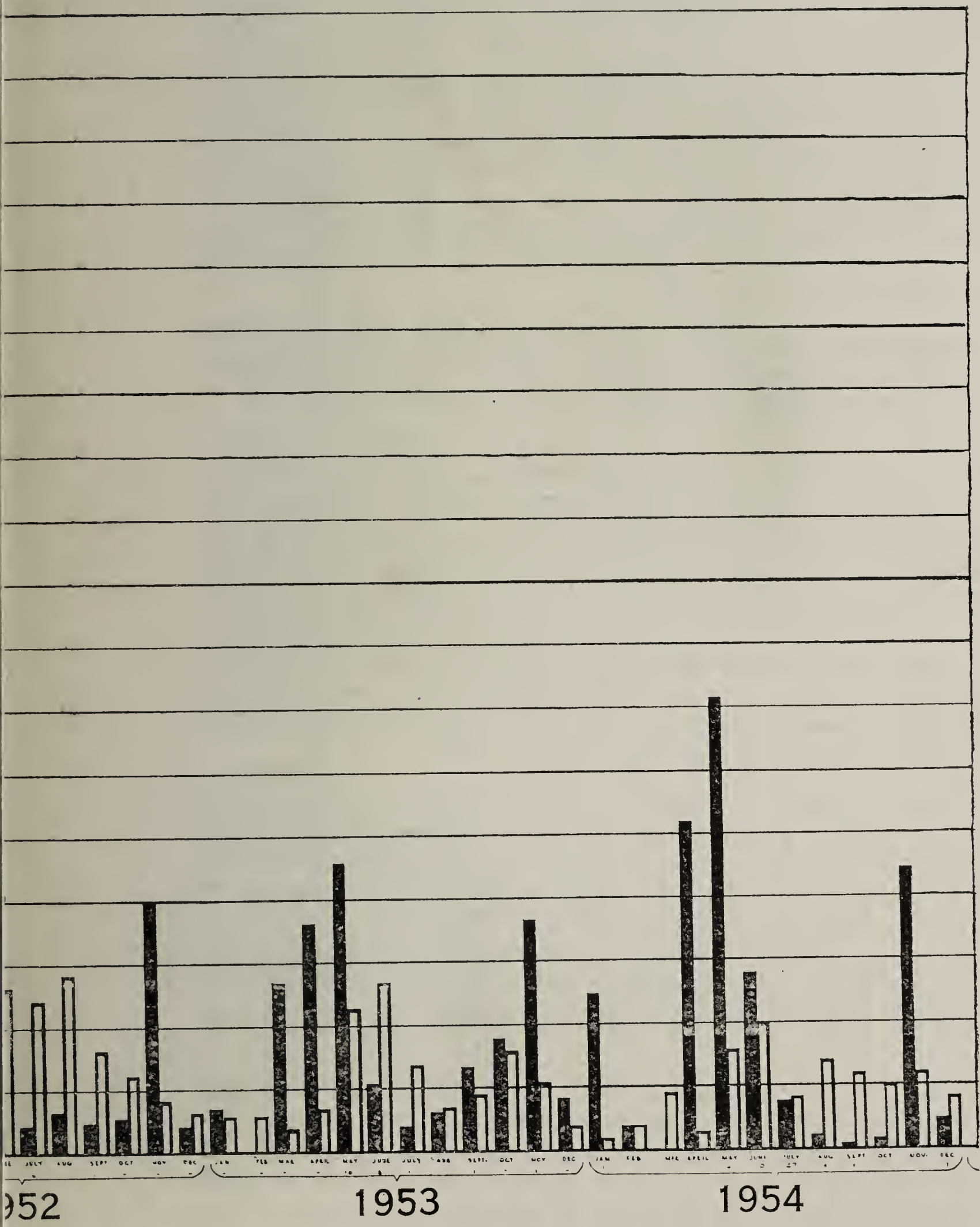
RAINFALL
EASTLEIGH AERODROME



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KEY
MALARIA CASES []
RAINFALL IN INCHES [■]

VECTOR ANOPHELES CATCHES.



and disposal service, and it came to be recognised that this was almost entirely a question of transport, and that transport was essentially a matter for the City Engineer's Department.

During the year the usual constant battle was waged against the accumulations of junk which disfigure the City. The problem presented by these is tied up with the ownership of the land. If it is on private property we can, and do, require the owner of the property to clear it up, though this involves a somewhat cumbersome legal procedure. If it is Council land, we can secure clearance by direct action with co-operation by the cleansing department. If it is Crown Land the situation is at present very unsatisfactory, inasmuch as it is usually impossible to trace the owners or depositors of the junk, and neither the Department of Lands nor the Office of the Commissioner for the Extra Provincial District appear able to give much help.

It would be manifestly desirable if vacant plots, under whatever ownership, could be surrounded with posts and wire to prevent dumping on them, but it promises to be an extremely difficult task to secure this.

One of the especial menaces in the City, is the old motor lorry, body or chassis, and the fact must be faced that as more and more new vehicles are imported so more and more will be dumped. If they are left, not only are they extremely unsightly, but they afford harbourage for rats, and become a nucleus attracting garbage and rubbish of all kinds. Not only is vacant land abused in this way, but especially in the Asian areas, it is a commonplace to see the front garden or the back yard of houses cluttered up with some vehicle which has been bought presumably in the hope that it may "come in useful some time". In fact, the condition of most of them is such that even if they were to be resurrected they would simply add to the public danger on the roads.

The cleansing department undoubtedly makes efforts to keep pace with the constant dumping, but unless the whole process can be speeded up they are fighting a losing battle, and areas of the City are becoming little better than car graveyards. It might be as well now to face up to the problem with something like a system which has been forced upon American townships where, if a not very new motor car is left anywhere for a certain period the owner is notified, and if he fails to move it the authorities do so, taking it to a proper yard where it is crushed into salvage.

It is once again my pleasant duty to pay a tribute to the loyalty and efficiency of the staff of this department who have carried on cheerfully despite the bad security conditions which have at times existed. I should also like to thank the Hon. Director of Medical Services and his staff for their unfailing co-operation and also to express appreciation to the Chairman of the Public Health Committee and members of the Council, who have shown interest in the work of the department.

Section

METEOROLOGY

SOME METEOROLOGICAL DETAIL — EASTLEIGH AERODROME 1954.

(From the E.A. Meteorological Department)

1954	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean												
Maximum	82.4	83.3	83.7	77.9	75.5	72.0	72.0	72.2	77.0	78.9	75.0	76.9
Mean												
Minimum	55.2	57.0	59.3	60.5	59.0	55.3	53.3	53.5	54.9	57.0	58.2	57.1
Mean	68.8	70.1	71.5	69.2	67.3	63.7	62.7	62.9	65.9	67.9	66.6	67.0
RAINFALL (inches)	2.49	0.39	0.00	5.21	7.20	2.79	0.76	0.21	0.07	0.17	4.45	0.44
DAYS OF RAIN	5	4	0	16	17	9	1	3	3	5	20	6
AVERAGE RAINFALL OVER 36 YEARS (NAIROBI RLY STN.)	1.40	1.85	4.87	7.94	5.00	1.64	0.57	0.96	0.91	2.11	3.90	2.63
RELATIVE HUMIDITY % (E.A.S.T.)	65 31	72 29	75 31	86 54	87 60	87 61	86 55	84 53	80 43	81 40	90 53	81 47
MEAN ATMOSPHERIC	839.1 835.9	839.1 836.1	939.5 836.3	839.8 837.0	839.9 837.5	841.1 838.9	840.6 838.8	841.3 839.1	841.4 838.2	840.7 837.2	840.6 837.3	839.2 836.1
	0830 hrs 1430 hrs											
	0830 hrs 1430 hrs											

SOME FIGURES OF NAIROBI RAINFALL — 1897-1954

Readings taken at Nairobi Railway Station

Average yearly rainfall 1897—1900	...	...	35.10 inches.
Average yearly rainfall 1901—1925	...	...	37.81 inches.
Average yearly rainfall 1926—1950	...	...	32.33 inches.
Total Rainfall for 1951	...	...	60.08 inches.
Total Rainfall for 1952	...	...	26.09 inches.
Total Rainfall for 1953	...	...	21.36 inches.
Total Rainfall for 1954	...	...	24.18 inches.

Average Yearly Rainfall 10-Year Periods

1901 to 1910	...	...	37.16 inches.
1911 to 1920	...	...	40.71 inches.
1921 to 1930	...	...	34.90 inches.
1931 to 1940	...	...	31.98 inches.
1941 to 1950	...	...	30.60 inches.

NOTE ON THE CLIMATE OF NAIROBI CITY

The City of Nairobi is about 5,500 feet high, rather more than 300 miles from the coast, and about 100 miles south of the equator. It is flanked by high ground on the north and west, and by extensive plains to the south and east. The modifying effect of the topography on an otherwise tropical climate is considerable.

The climate displays only relatively minor seasonal variations, but Nairobi's position so far inland results in a large diurnal variation, particularly in temperature and humidity, while its height causes it to be some 13° F cooler than the coast. The result is a climate which does not have the enervating effect generally associated with the tropics.

The hottest months are February and March, and during this period afternoon temperatures rise 85° F or more, and very occasionally to nearly 90° F, a figure which has never yet been exceeded. The period June to August is invariably one of comparative low day and night temperatures. The average maximum temperature for June is about 72° F; night-time temperature are generally about 54° F giving a mean range of 18°F. The lowest minimum recorded is 44°F during an August night in 1933, but temperatures much nearer freezing point have been experienced in neighbouring valley situations from time to time.

Relative humidity also has a very marked daily range. In the early morning it frequently reaches saturation and may fall to 10% in the middle of the day on clear sunny days in February or March.

Cloud is least during the period December-March when skies are noons. From April onwards cloud amount increases until in August at the height of the S.E. monsoons the sky may be quite overcast all morn-about half-covered in the mornings and less than half-covered in the after-

ing, the cloud only breaking in the afternoon. As cloud usually decreases after midday there is about 30% more sunshine in the afternoon than in the morning, and it follows that westerly slopes receive more sunshine than easterly. The following figures for mean hours of sunshine per day illustrate this point very clearly: —

	Hrs.		Hrs.		Hrs.
January	9.8	May	6.2	September	5.7
February	9.8	June	4.7	October	7.4
March	8.5	July	4.	November	7.1
April	7.2	August	4.1	December	8.4

The significance of these figures is better appreciated when it is remembered that the sun is above the horizon for about 12 hours per day throughout the year.

The figures for average rainfall given in the appendix show a distribution with two peaks, one in March—June (the “long rains”) and the other in October—December (the “short rains”). Late December and mid-March is popularly supposed to be the dry season, but there is an appreciable expectancy of rain in this period, a rather greater expectancy in fact than in the cool, dry but cloudy mid-year period. Rainfall is mainly, although not entirely, in the form of afternoon and evening showers, associated at times with thunderstorms. During the months June to September the S.E. Monsoon may bring a dense cap from which light rain sometimes falls for several hours, mainly during the early morning. Very heavy rain of the tropical deluge, type occurs infrequently; when it does it is invariably associated with the more violent type of thunderstorm. In 1951, a very wet year, falls of as much as 5” in 3 hours were experienced in the Nairobi area during the “long rains”. This is however exceptional, falls exceeding 2” in 24 hours being infrequent.

As is general in East Africa, rainfall means can be very misleading. Since several years of short rainfall may follow one another, means have to be interpreted with some circumspection. Some indication of the range of variation is given by the following extreme falls:—

Highest fall recorded in Nairobi 61.80” in 1930.

Lowest fall recorded in Nairobi 19.13” in 1943.

It is apposite to note at this juncture that the mean annual evaporation from a free water surface in Nairobi is some 36”, i.e. a figure comparable with the mean rainfall.

High winds are not common in Nairobi, but during February and March moderately strong east or north-easterly winds prevail, which, combined with very low humidities and high temperatures, makes the few weeks before the rains the most trying of the year.

Section 3

VITAL STATISTICS**GENERAL**

Area of City	20,480 acres or 32 sq. miles
Population (estimate)	180,500
Population density per acre	8.8

Summary of Vital Statistics

	Estimated Population	Deaths	Death Rate per 1,000	Live Births	Birth rate per 1,000	Infant deaths	Infant mor- tality Rate	Live and Still Births	Mater- nal Deaths	Death Rate per 1,000 births
Europeans	17,500	113	6.45	366	20.9	11	32.8	367	1	2.7
Asians	63,000	417	6.61	3,274	51.9	165	50.4	3,311	7	2.1
Africans	100,000	1,363	13.63	1,650	16.5	310	187.8	1,763	9	5.0
TOTALS	180,500	1,893	10.5	5,290	29.3	486	91.9	5,441	17	3.1

Summary of Principal Causes of Death

(Figures in brackets=total deaths)

Europeans (113)		Asians (417)		Africans (1,363)	
Violence	21 = 18%	Under 1 month	105 = 25%	Under 1 year	310 = 23%
Circulatory	19 = 16%	Under 1 year	65 = 15%	Respiratory	308 = 23%
Cancer	14 = 12%	Violence	39 = 9%	Infectious	303 = 22%
Digestive	11 = 9%	Digestive	36 = 8%	Violence	185 = 13%
Under 1 year	11 = 9%	Ill-defined	36 = 8%		

This table is revealing! It is distressing to note that 170 Asian deaths (40% of the total Asian deaths) were infants under one year; 55 of these were due to prematurity, 28 to pneumonia, 14 to malnutrition and debility, 25 to gastro-enteritis and diarrhoea and 9 to birth injuries. This is a wastage which should horrify since it is largely unnecessary. The reasons are easy to see, the remedies are not so easy to carry out.

Much attention and energy has been given by the department to the problems indicated by these figures but the results have not been spectacular. More clinics are being built, the yearly refresher course is attended with regularity by most midwives but there are obstacles which cannot be overcome by clinics, no matter how numerous and by clinic staffs, no matter how energetic. The principal of these are an almost fatalistic acceptance of low standards as being satisfactory standards, an inability to see the value of higher quality work in midwifery and nursing home practice, a deep seated determination to stick by old and unfortunate customs, a distrust of free services, and a reluctance (understandable?) to cooperate with the authorities in tracing evidence of poor practice or malpractice.

It is known to this department, for example, that antenatal care is frequently insufficient and that post natal care is non-existent and all too often left to an untrained African girl. Those who carry on their practices in this way are as aware as the authorities that this is wrong. They are also equally well aware that the authorities find it extremely difficult to prove that such things go on and are, consequently, prepared to take the risk and continue to maintain intolerably low standards. Then, there is the instance, not isolated, when ghee was applied to a septic umbilicus and the advice of our staff was ignored until the patient was almost dead. Progress can be made but so long as many continue to accept and to protect such standards, progress will be much delayed.

It must be said, in all fairness, that not all midwives practice in this way; there are those with the highest possible sense of professional standards and etiquette. The department appreciates their good work and the co-operation which they give.

Poverty and its accompanying ignorance play a large part in producing these high figures. There is no question, a considerable number of our 63,000 Asians have very low standard of living, dwelling in hovels and in disgracefully overcrowded conditions. As always, a great many of such people are ignorant and extremely conservative in their ways, preferring to adhere to some of their more unfortunate customs and being distrustful of free and up to date advice. Many, consequently, receive no ante natal care and no advice on how to bring up children. Our home visiting service copes to some extent with this. While not underestimating the excellent work done by our health visitors it must be confessed that

the work would probably be of greater value were the health visitors fully qualified in nursing and midwifery. It is hoped that this time may not be far off.

It is probably more commonplace than unusual for an Asian family to consist of 8 to 10 children. If the income is high this is reasonable but more often than not it results only in a greater degree of poverty and malnutrition. It is another instance of quantity rather than quality. It is thought that many would welcome advice on family planning. Such advice is now given at all clinics and many are making use of this facility. In 1955 it is hoped to give talks and to show films to chosen audiences in order to make the population more conscious of the idea and principles of family planning.

An additional factor is the inadequate hospital facilities. The Indian Maternity Hospital has long struggled under the most adverse circumstances to provide accommodation for patients and training for midwives. The facilities, though now being improved, have for long been inadequate and the outside financial support given to the hospital, extremely poor. With due respect to the struggling hospital, the only satisfactory solution is a new one.

The department has directed its energies to many of these problems. Work of this type is slow in showing results. For some of the problems, legal powers, which we do not possess, would appear to be the best answer. It is hoped that the Kenya Nursing Council will be able to assist and that within a few years, one way or another, these figures may show a marked reduction.

The figures for the African population are equally unfortunate but the problem is in some ways, an entirely different one. The emergency has undoubtedly made clinic work and, in particular, the home visiting service, much more difficult. It must be admitted that in many areas, though not all, the work has slipped back by several years.

The intimidation of our own African staff, of practising midwives and of the African population (a thing which continues) has resulted in an enormous reduction in the amount of work which our staff could do and in the value of the teaching which they have been able to do. Subversive elements undoubtedly undo much that is taught.

Many of the problems are social ones. The population is not static and mother and child welfare work is unsatisfactory in most cases when given to mothers and children who come to Nairobi for only 3 to 6 months of the year. The mother remains ignorant and illiterate and her return to the reserves means the undoing of all she may have learnt in the City. It also means, of course, that our statistical figures for deaths under one year are most misleading as many mothers leave Nairobi soon after their baby has been born. Polygamy is another confusing social practice and

one which often results in infant neglect, one wife being left to look after (and often neglect) the children of another wife. A problem which is ever becoming more acute is the one of working mothers. More and more women are being employed in the city. Many of them leave their children to look after themselves or to be inadequately looked after by the oldest (though not very old) child.

Finally, the idea of "health" is particularly difficult to "get across" to the population and one of the great problems is to prevent clinics from becoming drug dispensaries. Only great firmness can prevent this but it is a principle which must be maintained at all costs.

These are some of the problems which the clinics are trying to tackle. There is danger that the true work of the clinics, which is educational, may be lost sight of in the purely social problems which abound in the African locations. Clinics and purely social work cannot be entirely separated, for the workers in clinics must often be those who first see the social problem. But, though they may point out the problem, it should not mean that they must be the ones to deal with it. We must not lose sight of our true aim and object.

The greatest difference between the African and Asian problem is that there are those amongst the Asian population who could bring about radical changes virtually overnight. Not so, to the same extent amongst the Africans, where we shall have to rely entirely on the dissemination of our teaching by our own staff and by the nucleus of high quality families which are centred round each one of our clinics.

TABLE 1

Population Figures 1950 to 1954

(Estimated by East African Statistical Department)

		1950	1951	1952	1953	1954
Europeans	...	14,500	15,000	15,500	16,000	17,500
Asians	...	52,000	54,000	56,000	60,000	63,000
Africans	...	70,000	80,000	95,000	100,000	100,00
		136,500	149,000	166,500	176,000	180,500

TABLE 2

Number of Births Notified in 1954

	Residents					Non-Residents				
	Male		Female		Total	Male		Female		Total
	Births	Still-Births	Births	Still-Births		Births	Still-Births	Births	Still-births	
Europeans	192	1	174	—	367	118	2	100	2	222
Asians	1639	19	1635	18	3311	20	1	18	1	40
Africans	815	56	835	57	1763	162	13	157	5	337
Seychelloise	3	—	4	—	7	—	—	—	—	—
	2649	76	2648	75	5448	300	16	275	8	599

TABLE 3

Birth Rates for Past Five Years

			1950	1951	1952	1953	1954
Europeans	...	...	19.7	20.2	21.03	18.4	20.9
Asians	...	...	55.6	57.7	61.0	54.4	51.9
Africans	...	...	25.6	24.7	18.1	16.1	16.5

TABLE 4

Infant Mortality Rates for Past Five Years.

			1950	1951	1952	1953	1954
Europeans	...	...	39	52	24	20	38.8
Asians	...	...	58	52	56	49	50.4
Africans	...	...	170	180	299	281	187.8

TABLE 6

Death Rates Over Past Five Years

			1950	1951	1952	1953	1954
Europeans	...	...	8.6	9.9	9.3	6.9	6.45
Asians	...	...	7.0	8.0	7.8	6.26	6.61
Africans	...	...	14.0	16.8	15.3	17.60	13.63

TABLE 7

Maternal Deaths and Maternal Mortality Rate 1954

		Live and Still Births	Maternal Deaths	Rate/1,000 Births
Europeans	...	367	1	2.7
Asians	...	3,311	7	2.1
Africans	...	1,763	9	5.6
TOTALS	...	5,441	17	3.1

Summary of the Causes of Deaths

	Europeans	Asians	Africans	Totals	Percentage of all deaths in 1954.	Percentage of all deaths in 1953.	Deaths Rate 1954.	Deaths Rate 1953.
1. Infectious & Parasitic								
Diseases	9	19	303	331	17.4	18.02	1.83	2.3
2. Cancer and other Tumours	14	7	24	45	2.37	1.78	0.24	0.22
3. Rheumatism, Diseases of Nutrition, etc.	2	6	11	19	1.05	1.86	0.10	0.24
4. Diseases of the Blood, etc.	—	15	29	44	2.32	2.10	0.24	0.26
5. Chronic Poisoning and Intoxications	—	—	3	3	.15	.04	0.01	0.005
6. Diseases of the Nervous System	8	29	51	88	4.65	4.49	0.48	0.57
7. Diseases of the Circulatory System	19	36	18	73	3.85	2.02	0.40	0.38
8. Diseases of the Respiratory System	7	65	308	380	20.03	16.55	2.09	2.1
9. Diseases of the Digestive System	11	38	170	219	11.57	11.12	1.21	1.4
10. Diseases of the Genito-Urinary System (non-venereal)	3	14	15	32	1.69	1.06	0.17	0.19
11. Diseases of Pregnancy, Childbirth, etc.	1	7	9	17	0.89	.40	0.09	0.05
12. Diseases of the Skin ...	—	1	3	4	0.21	.22	0.02	0.02
13. Diseases of Bones and Joints	—	1	3	4	0.21	.13	0.02	0.01
14. Congenital Malformations	1	8	10	19	1.05	.71	0.10	0.09
15. Diseases peculiar to the First Year of Life ...	8	87	91	186	9.83	8.14	1.03	1.03
16. Senility, old age ...	5	10	9	24	1.26	.66	0.13	0.08
17. Death from Violence ...	21	39	185	245	12.94	9.92	1.35	1.26
18. Ill-defined Causes ...	4	36	121	161	8.5	19.31	0.89	2.46
Total of all deaths ...	113	417	1363	1893	100.0	100.0	10.48	12.76

Causes of Infant Deaths

(Under one month).

International

List No.	Cause	Europeans	Asians	Africans	Total
12.	Tetanus	—	—	2	2
13.	Pulmonary tuberculosis	—	—	1	1
30.	Congenital syphilis	—	1	3	4
81.	Pneumococcal meningitis	—	—	1	1
83.	Intra cranial haemorrhage	—	3	—	3
103.	Internal haemorrhage	—	—	1	1
105.	Acute laryngitis	—	—	1	1
106.	Acute bronchitis	—	1	—	1
107.	Broncho pneumonia	—	6	5	11
108.	Lobar pneumonia	—	—	2	2
109.	Pneumonia — undefined	—	4	1	5
111.	Congestion of lung	—	—	1	1
115.	Upper respiratory throat infection	—	1	—	1
119.	Gastro enteritis	—	4	3	7
124.	Cirrhosis of liver	—	1	—	1
152.	Cellulitis abdomen	—	—	1	1
157.	Hydrocephalus	—	1	—	1
157.	Congenital deformity	—	2	—	2
157.	Foetal abnormality	—	1	—	1
157.	Intestinal obstruction	—	1	—	1
157.	Spina biida	—	1	1	2
157.	Congenital heart disease	1	—	7	8
157.	Anencephalus	—	—	1	1
158.	Marasmus	—	2	3	5
158.	Debility	—	—	1	1
158.	Weak child	—	2	—	2
158.	Dehydration	—	1	—	1
159.	Prematurity	6	49	28	83
159.	Immaturity	—	4	—	4
160.	Birth injuries	—	6	1	7
160.	Delayed in 2nd stage	—	—	1	1
160.	Cerebral injury	—	—	1	1
160.	Breech delivery	1	—	—	1
161.	Meloena neonatorum	—	1	—	1
161.	Maternal diabetis	1	—	—	1
161.	Septic umbilicus	—	—	1	1
161.	Atelectasis	—	2	1	3
161.	Icterus neonatorum	—	3	—	3
161.	Asphyxia neonatorum	—	6	1	7
200.	Unknown	—	1	10	11
200.	Natural causes	—	—	4	4
200.	Respiratory failure	—	1	—	1
		9	105	83	197

Causes of Infant Deaths.

(From one month to one year.)

International

List No.	Cause					Europeans	Asians	Africans	Total
9.	Whooping cough	...	...	...	...	—	—	4	4
13.	Tuberculous lung	...	...	...	...	—	—	1	1
14.	Tuberculous meningitis	...	...	...	...	—	—	1	1
27.	Salmonellosis	...	...	...	...	—	—	2	2
27.	Bacillary dysentery	...	...	...	...	—	—	14	14
27.	Dysentery	...	...	...	...	—	—	1	1
28.	Malaria	...	...	...	...	—	—	2	2
30.	Congenital syphilis	...	...	...	...	—	—	2	2
33.	Influenzal pneumonia	...	...	...	...	—	—	3	3
33.	Influenzal meningitis	...	...	...	...	—	1	1	2
33.	General influenza	...	...	...	...	—	—	1	1
36.	Polio-encephalitis	...	...	...	...	—	—	1	1
69.	Kwashiorkor	...	...	...	...	—	—	1	1
72.	Haemophilia	...	...	...	...	—	1	—	1
73.	Acute anaemia	...	...	...	...	—	—	2	2
73.	Anaemia	...	...	...	...	—	1	3	4
73.	Secondary anaemia	...	...	...	...	—	—	1	1
80.	Encephalitis	...	...	...	...	—	1	—	1
81.	Meningitis	...	...	...	...	—	—	1	1
81.	Pneumococcal meningitis	...	...	...	...	—	—	2	2
92.	Mitral stenosis	...	...	...	...	—	—	1	1
106.	Bronchitis	...	...	...	...	—	—	1	1
107.	Acute bronchitis	...	...	...	...	—	—	1	1
107.	Broncho pneumonia	...	...	...	...	—	6	57	63
108.	Lobar pneumonia	...	...	...	...	—	1	7	8
108.	Bilateral pneumonia	...	...	...	...	—	4	—	4
109.	Pneumonia, undefined	...	...	...	...	—	6	11	17
110.	Pleural effusion	...	...	...	...	—	—	1	1
115.	Pharyngitis	...	...	...	...	—	—	1	1
116.	Perforation of oesophagus	...	...	...	...	—	—	1	1
119.	Diarrhoea	...	...	...	...	—	9	11	20
119.	Gastro enteritis	...	...	...	...	—	12	43	55
119.	Enteritis	...	...	...	...	1	—	3	4
122.	Intestinal obstruction	...	...	...	...	—	—	2	2
124.	Cirrhosis of liver	...	...	...	...	—	1	—	1
133.	Pyelitis	...	...	...	...	—	—	1	1
153.	Scleroderma	...	...	...	...	—	1	—	1
157.	Congenital deformity	...	...	...	...	—	—	1	1
158.	Malnutrition	...	...	...	...	—	3	3	6
158.	Cachexia	...	...	...	...	—	1	—	1
159.	Prematurity	...	...	...	...	—	7	2	9
181.	Burns	...	...	...	...	—	1	—	1
182.	Asphyxia	...	...	...	...	—	1	1	2
195.	Fractured ribs	...	...	...	...	—	—	1	1
195.	Accidental fracture	...	...	...	...	—	1	—	1
200.	Cardiac failure	...	...	...	...	1	1	—	2
200.	Natural causes	...	...	...	...	—	7	—	7
200.	Pyrexia	...	...	...	...	—	1	—	1
200.	Unknown	...	...	...	...	—	9	—	9
200.	Ill-defined	...	...	...	...	—	7	—	7
						2	60	227	289

Causes of Deaths.

(Corrected for Outward Transfer)

International Classification.

Group I.— Infectious and Parasitic Diseases.

International

List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid	—	1	52	53
6.	Meningococcal meningitis	—	2	5	7
6.	Cerebro-spinal meningitis	—	1	1	2
9.	Whooping cough	—	—	16	16
10.	Diphtheria	—	—	1	1
12.	Tetanus	—	—	12	12
13.	Pulmonary haemorrhage	—	1	—	1
13.	Tuberculous broncho pneumonia	—	—	5	5
13.	Pulmonary tuberculosis	—	3	62	65
13.	Primary tuberculosis	—	—	1	1
14.	Tuberculous meningitis	1	2	16	19
15.	Tuberculous abdomen	—	—	2	2
19.	Tuberculous adenitis	—	—	1	1
21.	Tuberculous pericarditis	—	—	2	2
22.	Miliary tuberculosis	—	—	6	6
22.	Generalised tuberculosis	—	—	1	1
22.	Tuberculous polyserositis	—	—	1	1
24.	Septicaemia	1	—	3	4
27.	Bacillary dysentery	—	1	43	44
27.	Amoebic dysentery	—	—	1	1
27.	Dysentery	—	—	7	7
27.	Salmonellosis	—	—	3	3
28.	Cerebral malaria	1	1	1	3
28.	Malaria	—	1	14	15
29.	Trypanosomiasis	—	—	1	1
30.	Congenital syphilis	—	1	7	8
30.	Syphilis	—	1	—	1
30.	Syphilitic aortitis	—	—	1	1
30.	General paralysis of the insane	—	—	4	4
30.	Meningo vascular syphilis	—	—	1	1
30.	Aneurysm of aorta	1	—	—	1
30.	Aortaminosis	—	—	1	1
33.	Influenza meningitis	—	1	1	2
33.	Influenza	—	1	7	8
33.	Influenzal meningitis	—	—	1	1
35.	Measles	—	—	11	11
36.	Poliomyelitis	5	1	8	14
36.	Polioencephalitis	—	—	2	2
44.	Hodgkin's disease	—	1	2	3
		9	19	303	331

Group II.—Cancer and other Tumours.

International

List No.	Cause	Europeans	Asians	Africans	Total
45.	Carcinoma of salivary gland	...	...	1	1
46.	Carcinoma of bladder	...	...	1	2
46.	Cancer of the stomach	...	...	—	3
46.	Cancer of the cesophagus	...	...	5	5
46.	Cancer of the liver	...	...	5	5
46.	Cancer of pancreas	...	...	2	2
46.	Cancer of bileduct	...	...	1	1
47.	Cancer of lung	...	...	1	3
48.	Carcinoma of uterus	...	...	—	1
50.	Cancer of breast	...	...	—	3
52.	Cancer of kidney	...	...	—	1
54.	Cancer of the brain	...	...	—	1
55.	Lymphosatcomatosis	...	...	1	2
55.	Carcinoma of pelvis	...	...	—	1
55.	Multiple myelomata	...	...	1	2
55.	Sarcoma of larynx	...	...	—	1
55.	Carcinoma of rectum	...	...	—	1
55.	Cancer of chest	...	...	1	1
55.	Lymphosarcoma of groin	...	...	1	1
55.	Carcinomatosis	...	...	4	6
56.	Cerebral tumour	...	...	—	1
56.	Intra-cranial tumour	...	...	—	1
					<hr/>
					14 7 24 45

Group III.—Rheumatism, Diseases of Nutrition and of the Endocrine Glands and Vitamin Deficiency Diseases, General Diseases.

International

List No.	Cause	Europeans	Asians	Africans	Total
58.	Rheumatic pericarditis	—	—	1	1
58.	Rheumatic fever	—	—	1	1
58.	Rheumatic endocarditis	—	1	—	1
58.	Rheumatic carditis	1	—	1	2
61.	Diabetes	—	1	—	1
61.	Hypoglycaemia	—	1	—	1
61.	Diabetic coma	—	1	—	1
63.	Myxoedema	—	1	—	1
66.	Toxaemia	1	1	2	4
66.	Haemochromatosis	—	—	1	1
69.	Pellagra	—	—	1	1
69.	Kwashiorkor	—	—	3	3
71.	Avitaminosis	—	—	1	1
					<hr/>
					2 6 11 19

Group IV.—Diseases of the Blood and Blood-forming Organs.

International

List No.	Cause	Europeans	Asians	Africans	Total
72.	Haemophilia	—	1	—	1
73.	Sickle cell anaemia	—	1	3	4
73.	Anaemia (aplastic)	—	1	—	1
73.	Anaemia (megalocytic)	—	—	2	2
73.	Anaemia	—	—	2	2
73.	Anaemia (secondary)	—	9	13	27
74.	Leukaemia	—	1	—	1
74.	Myeloid leukaemia	—	1	2	3
75.	Ruptured spleen	—	—	2	2
76.	Agranulocytosis	—	1	—	1
		—	15	29	44

Group V.—Chronic Poisoning and Intoxication.

International

List No.	Cause	Europeans	Asians	Africans	Total
77.	Acute alcoholism	—	—	3	3
		—	—	3	3

Group VI.—Diseases of the Nervous System.

International

List No.	Cause	Europeans	Asians	Africans	Total
80.	Cerebral abscess	—	—	1	1
80.	Encephalitis	—	3	2	5
81.	Meningitis	—	1	14	15
81.	Meningitis (pneumococcal)	—	1	6	7
81.	Meningitis (cerebral)	—	1	—	1
83.	Cerebral haemorrhage	5	7	3	15
83.	Cerebral thrombosis	1	2	—	3
83.	Sub-arachnoid haemorrhage	—	1	5	6
83.	Cerebral embolism	—	1	—	1
83.	Intra cranial haemorrhage	—	3	2	5
83.	Meningeal haemorrhage	—	—	1	1
83.	Sub-dural haemorrhage	—	—	1	1
83.	Congestive heart failure	2	7	4	13
84.	Melancholia	—	—	1	1
84.	Schizophrenia	—	—	2	2
84.	Mania (acute)	—	—	2	2
85.	Status epilepticus	—	—	5	5
87.	Chorea	—	1	—	1
87.	Cerebral diplegia	—	1	—	1
89.	Mastoiditis	—	—	1	1
89.	Otitis media	—	—	1	1
		8	29	51	88

Group VII.—Diseases of the Circulatory System.

International

List No.	Cause	Europeans	Asians	Africans	Total
90.	Pericarditis	—	—	1	1
90.	Constrictive pericarditis	—	—	1	1
91.	Endocarditis	—	—	1	1
92.	Mitral heart disease	2	2	—	4
92.	Valvular heart disease	2	—	—	2
92.	Mitral regurgitation	—	1	—	1
92.	Mitral Stenosis	1	—	3	4
92.	Heart disease	—	1	—	1
93.	Arteriosclerotic heart failure	—	1	—	1
93.	Myocarditis	—	—	1	1
93.	Myocardial infarction	—	2	1	3
94.	Coronary disease	1	—	—	1
94.	Coronary thrombosis	11	21	1	33
94.	Coronary occlusion	1	—	—	1
95.	Left ventricular failure	—	—	1	1
95.	Cardial asthma	—	1	—	1
97.	Arteriosclerosis	—	—	1	1
97.	Arterio-sclerotic atrophy	—	1	—	1
99.	Cerebral arteritis	—	—	1	1
99.	Mesenteric thrombosis	1	—	—	1
100.	Thrombophlebitis	—	1	—	1
102.	Hypertension	—	4	—	4
103.	Haemorrhage (unspecified means)	—	—	2	2
103.	Cerebral haemorrhage	—	1	—	1
103.	Internal haemorrhage	—	—	4	4
		19	36	18	73

Group VIII.—Diseases of the Respiratory System.

International

List No.	Cause	Europeans	Asians	Africans	Total
105.	Acute laryngitis	—	—	1	1
106.	Bronchitis	1	2	6	9
107.	Broncho pneumonia	—	19	156	175
108.	Bilateral pneumonia	—	5	20	25
108.	Central pneumonia	—	—	1	1
108.	Lobar pneumonia	1	3	69	73
108.	Terminal pneumonia	—	1	1	2
109.	Pneumonia (unspecified)	1	23	40	64
109.	Unresolved pneumonia	—	—	3	3
110.	Empyema	—	1	1	2
110.	Pleural effusion	—	—	1	1
111.	Pulmonary embolism	1	1	1	3
111.	Pulmonary congestion	—	1	—	1
111.	Pulmonary oedema	—	1	1	2
111.	Congestion of lung	—	—	1	1
112.	Chronic asthma	—	3	—	3
112.	Asthma	—	3	2	5
112.	Bronchial asthma	—	1	—	1
113.	Emphysema of lung	3	—	2	5
114.	Chronic lung abscess	—	—	2	2
115.	Upper Respiratory throat infection	—	1	—	1
		7	65	308	380

Group IX.—Diseases of the Digestive System.

International

List No.	Cause	Europeans	Asians	Africans	Total
115.	Pharyngitis	—	—	1	1
116.	Perforation of oesophagus	—	—	1	1
117.	Gastrectomy	1	—	—	1
118.	Haematemesis	1	—	1	2
119.	Enteritis (under 2)	—	—	9	9
119.	Acute gastro enteritis	—	18	76	94
119.	Acute enteritis	—	—	1	1
119.	Diarrhoea (under 2)	—	10	17	27
119.	Enteric infection	1	—	—	1
119.	Acute abdominal infection	—	—	1	1
120.	Diarrhoea (over 2)	—	1	8	9
120.	Gastro enteritis (over 2)	1	1	15	17
120.	Enteritis	—	—	9	9
120.	Perforation of gastric ulcer	1	—	1	2
122.	Volvulus of large & small intestine	—	—	1	1
122.	Intestinal obstruction	1	1	4	6
122.	Strangulated hernia	—	1	—	1
122.	Paralytic ileus	1	—	—	1
123.	Melaena	1	—	—	1
123.	Ruptured small intestine	—	—	1	1
124.	Hepatic cirrhosis	—	—	1	1
124.	Cirrhosis of liver	1	3	6	10
125.	Primary hepatoma	—	—	1	1
125.	Liver abscess	—	—	3	3
125.	Infective hepatitis	1	—	1	2
125.	Liver failure	—	—	1	1
125.	Acute hepatitis	—	—	1	1
125.	Hepatorenal syndrome	—	—	1	1
128.	Pancreatitis	1	—	1	2
129.	Peritonitis	—	2	8	10
		11	37	170	218

Group X.—Diseases of the Urinary & Genital System (Non Venereal).

International

List No.	Cause	Europeans	Asians	Africans	Total
131.	Chronic nephritis	1	4	5	10
132.	Nephritis	—	1	1	2
132.	Uraemia	2	8	8	18
133.	Pyelocystitis	—	—	1	1
139.	Hysterectomy	—	1	—	1
		3	14	15	32

Group XI.—Diseases of Pregnancy, Child Birth and the Puerperal State.

International

List No.	Cause	Europeans	Asians	Africans	Total
141.	Cerebral Toxaemia	—	—	1	1
141.	Post partum shock	—	—	1	1
142.	Ruptured ectopic gestation	1	—	—	1
143.	Ante-partum haemorrhage	—	—	2	2
144.	Eclampsia	—	1	—	1
146.	Post partum haemorrhage	—	2	—	2
146.	Haemorrhage in childbirth	—	—	1	1
149.	Caesarian birth	—	1	—	1
149.	Abnormal labour, obstructed breech	—	1	—	1
149.	Ruptured uterus	—	—	2	2
149.	Post partum shock, abnormal delivery	—	—	1	1
149.	Obstetric shock	—	1	1	2
150.	Childbirth (unqualified)	—	1	—	1
		1	7	9	17

Group XII.—Diseases of the Skin and Cellular Tissue.

International

List No.	Cause	Europeans	Asians	Africans	Total
152.	Cellulitis of scalp	—	—	1	1
152.	Cellulitis of abdomen	—	—	1	1
153.	Scleroderma	—	1	—	1
153.	Exfoliative dermatitis	—	—	1	1
		—	1	3	4

Group XIII.—Diseases of the Bones and Organs of Movement.

International

List No.	Cause	Europeans	Asians	Africans	Total
154.	Osteomyelitis	—	1	2	3
156.	Myositis	—	—	1	1
		—	1	3	4

Group XIV.—Congenital Malformations.

International

List No.	Cause	Europeans	Asians	Africans	Total
157.	Anencephalic	—	—	1	1
157.	Spina Bifida	—	1	—	1
157.	Congenital heart disease	1	2	7	10
157.	Congenital deformity	—	1	1	2
157.	Congenital abnormalities	—	2	—	2
157.	Hydrocephalus	—	1	—	1
157.	Intestinal obstruction	—	1	—	1
157.	Acute intestinal condition	—	—	1	1
		1	8	10	19

Group XV.—Diseases Peculiar to the First Year of Life.

International

List No.	Cause					Europeans	Asians	Africans	Total
158.	Weak child	...	...	...	...	—	2	—	2
158.	Marasmus	...	...	...	...	—	5	8	13
158.	Congenital debility	...	...	...	...	—	—	1	1
158.	Malnutrition	...	...	...	...	—	—	6	6
158.	Dehydration	...	...	...	...	—	1	—	1
158.	Cachexia	...	...	...	...	—	1	—	1
159.	Prematurity	...	...	...	...	6	55	69	130
159.	Immaturity	...	...	...	...	—	5	—	5
160.	Birth Injuries	...	...	...	...	—	6	1	7
160.	Haemorrhage following birth	...	...	...	...	—	—	1	1
160.	Breech delivery	...	...	...	...	1	—	—	1
160.	Cerebral injury	...	...	...	...	—	—	1	1
160.	Delayed in 2nd stage	...	...	...	...	—	—	1	1
161.	Septic umbilicus	...	...	...	...	—	—	1	1
161.	Melaena neonatorum	...	...	...	...	—	1	—	1
161.	Maternal diabetes	...	...	...	...	1	—	—	1
160.	Asphyxia neonatorum	...	...	...	...	—	2	1	3
161.	Atelectasis	...	...	...	...	—	6	1	7
161.	Incterus neonatorum	...	...	...	...	—	3	—	3
						8	87	91	186

Group XVI.—Senility, Old Age.

International

List No.	Cause					Europeans	Asians	Africans	Total
162.	Senility	...	...	...	...	4	8	9	21
162.	Cachexia	...	...	...	...	1	—	—	1
162.	Asthenia	...	...	...	...	—	2	—	2
						5	10	9	24

Group XVII.—Death from Violence.

International

List No.	Cause	Europeans	Asians	Africans	Total
163.	Salicylate poisoning	—	—	1	1
163.	Barbiturate poisoning	1	—	—	1
164.	Suicide by firearms	5	—	—	5
164.	Suicide by hanging	—	—	5	5
166.	Homicide by firearms	1	8	76	85
167.	Homicide by stab wounds	—	1	19	20
167.	Murder	—	—	4	4
168.	Strangulation	—	1	23	24
168.	Homicide (unspecified means)	—	—	7	7
168.	Toxaemia due to extensive burns	1	—	—	1
169.	Train accident	—	—	2	2
170.	Traffic accident	4	12	32	48
173.	Air accident	1	—	—	1
175.	Laceration of brain (accident)	—	1	—	1
177.	Food poisoning	—	1	—	1
178.	Kerosene oil poisoning	—	1	—	1
179.	Alcoholic poisoning	—	1	—	1
181.	Burns	1	7	5	13
182.	Asphyxia (accident)	—	1	3	4
183.	Drowning	1	1	—	2
184.	Gunshot wounds (accident)	1	—	—	1
193.	Electrocution	—	1	—	1
195.	Fracture of ribs	—	—	1	1
195.	Fractured skull	—	1	3	4
195.	Fractured femur	—	1	1	2
195.	Accidental fracture	—	1	—	1
195.	Multiple injuries following explosion	1	—	—	1
195.	Fractured pelvis	—	—	2	2
195.	Traumatic amputation of leg	—	—	1	1
196.	Multiple injuries	4	—	—	4
		21	39	185	245

Group XVIII.—Ill defined causes of Death.

International

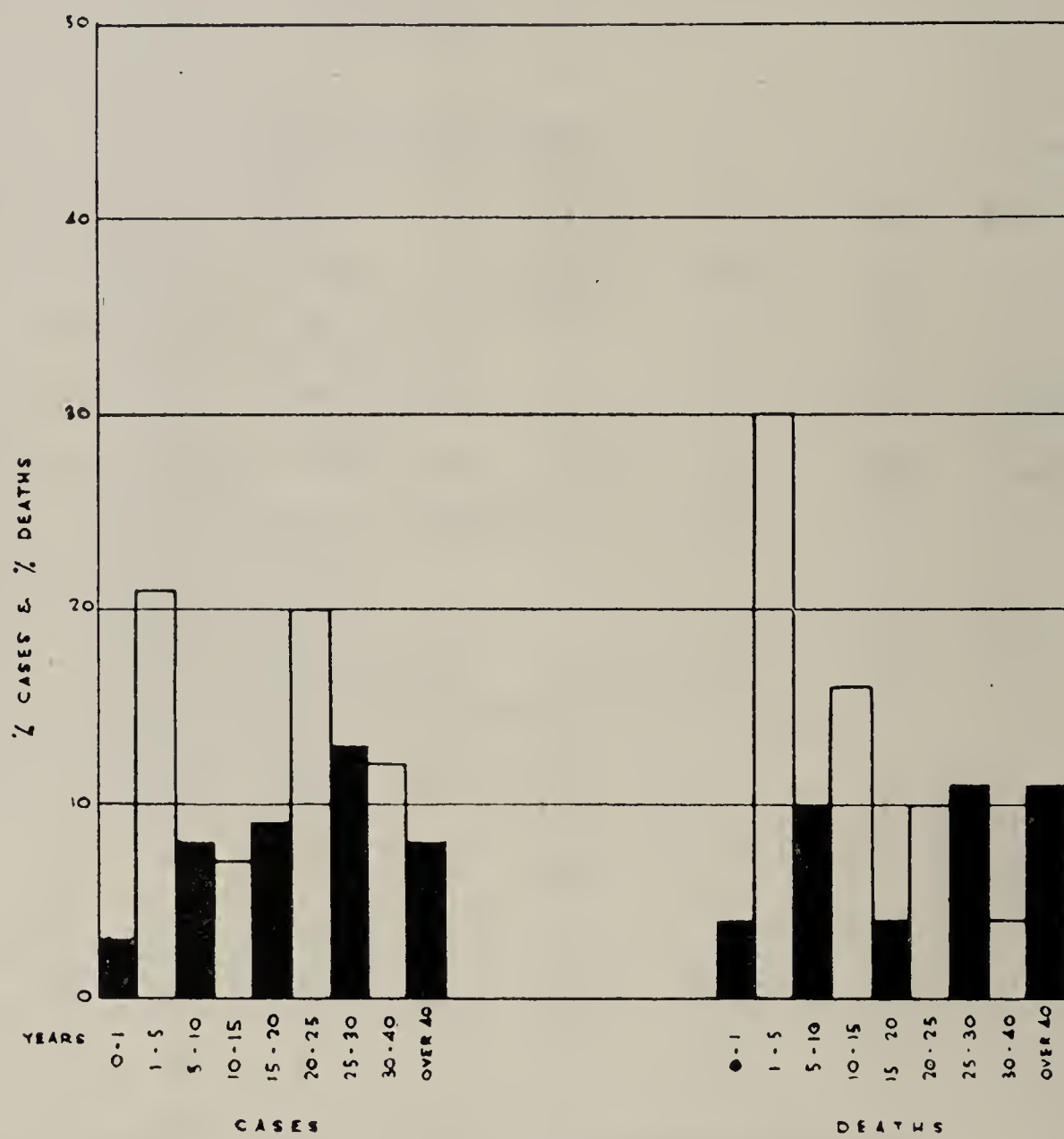
List No.	Cause	Europeans	Asians	Africans	Total
200.	Natural Cause	—	1	32	33
200.	Unknown, ill defined	—	4	63	67
200.	Heart failure	—	21	8	29
200.	Malnutrition	—	—	13	13
200.	Post-operative shock	—	1	—	1
200.	Cardiac failure	4	1	—	5
200.	Marasmus	—	4	3	7
200.	Pyrexia	—	1	—	1
200.	Hyperpyrexia	—	1	—	1
200.	Respiratory failure	—	1	—	1
200.	Circulatory failure	—	1	—	1
200.	Asphyxia	—	—	2	2
		4	36	121	161

Section 4.

NOTIFIABLE DISEASES

Notifiable Diseases, by Races

			T o t a l s							
Diseases			Europeans	Asians	Africans	1954	1953	1952	1951	1950
Anthrax	—	1	5	6	7	10	16	10		
Beri-beri	—	—	—	—	—	—	—	—	1	—
Blackwater Fever	—	1	1	2	—	4	2	1		
Cerebro-spinal Fever	1	1	28	30	1	2	11	2		
Chickenpox	14	18	38	70	238	55	531	279		
Diphtheria	1	2	2	5	13	30	16	12		
Dysentery, Amoebic	2	4	25	31	56	75	57	25		
Dysentery, Bacillary	49	45	468	562	564	344	316	198		
Encephalitis	—	1	4	5	—	—	—	—		
Erysipelas	3	—	—	3	2	1	1	5		
Glanders	8	5	5	18	—	5	—	—		
Kala-Azar	—	—	4	4	—	1	—	—		
Malta Fever	1	—	4	5	4	6	4	1		
Ophthalmia Neonatorum	—	—	55	55	23	19	11	20		
Para-typhoid	—	—	—	—	—	10	1	1		
Poliomyelitis	35	31	50	116	20	32	9	16		
Puerperal Fever	—	1	—	1	1	6	5	4		
Relapsing Fever	—	—	1	1	—	5	8	1		
Salmonellosis	—	—	31	31	—	—	—	—		
Scarlet Fever	—	—	—	—	4	2	1	2		
Smallpox	—	—	—	—	—	—	1	—		
Tick Typhus	9	—	—	9	4	24	15	18		
Trypanosomiasis	—	—	1	1	—	1	2	—		
Tuberculosis	5	19	279	303	472	361	405	387		
Typhoid	4	21	314	339	151	38	74	97		
Leprosy	—	2	1	3	9	—	13	19		
			132	152	1316	1600	1569	1039	1500	1101



TUBERCULOSIS 1954
AGE INCIDENCE - ALL RACES

Infectious diseases played a prominent and unfortunate part in the health history of the City during 1954. The two outstanding features were an epidemic of typhoid fever amongst the African population and an epidemic of acute anterior poliomyelitis which affected all races. These are dealt with elsewhere in the report, as is tuberculosis which continues unabated as the main infectious disease menace within the City.

The intestinal diseases — bacillary dysentery and gastro-enteritis are also high on the list. Much has been written about these in past reports. The incidence of these diseases is principally amongst the African and Asian populations. While improved housing and general social conditions would, without doubt, help to reduce the incidence there is no doubt but that a greater appreciation of the value of personal and environmental hygiene, and the more frequent and rigid practice of personal cleanliness are the real answers to the problem. Our great hope in promoting this lies in the health education of children in the schools. Health education is a branch of our work which has not been given sufficient attention in the past but it is the intention to concentrate more on this side in future.

TYPHOID FEVER

There were 339 cases (314 African), which is more than double the number for 1954 and seven times the average number of cases of the previous five years.

The source of the outbreak was not found. Cases occurred sporadically in all African areas thus rendering source investigation very difficult. It is highly probable that the cause was the filthy state of the locations which resulted from the drive during the early part of the year, and culminating in Operation Anvil, against the Kikuyu, Embu and Meru tribes. The cleansing of the City is dependent solely on these tribes and the drive resulted in such a depletion of cleansing staff that for a time the cleansing department was working against insuperable difficulties. The whole City suffered.

The African population responded to an unexpected degree to mass inoculation appeals and the epidemic was kept under control. The outbreak should however serve as a warning to those who would be complacent about the probability of epidemics of infectious disease occurring in the City.

TUBERCULOSIS

There were 303 cases diagnosed compared with 472 in 1953; but it must be remembered that there was a great reduction in the African population during most of the year.

We can only point once more to the menace and dangers of this disease. It is one of our greatest social problems. The Government Medical Department, it is understood, is planning a Colony wide drive against this disease — a drive in which all health authorities will have to play a part. This will cost a great deal of money but the possibility of getting a hidden return in improved health is often overlooked—a nation's wealth lies in the health of its people. It should also be remembered that the longer we leave the tuberculosis problem unattacked the more will it cost.

ACUTE ANTERIOR POLIOMYELITIS

The following report and all the figures include cases which occurred in the greater Nairobi area.

There were 140 cases of poliomyelitis — 49 European, 31 Asian and 50 African. Follow up in the Asian and African cases was difficult and accurate figures can be given for the European population only.

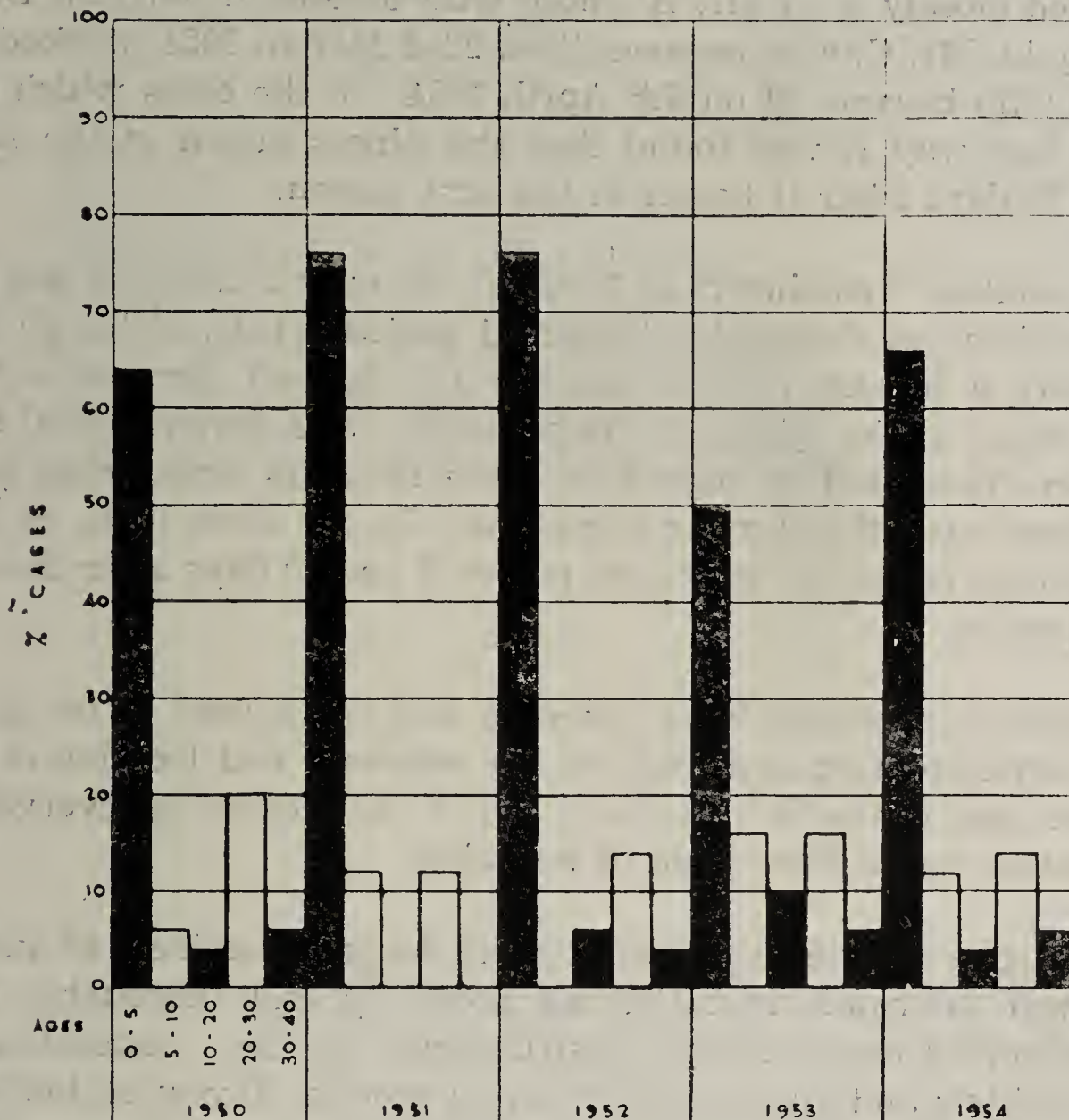
Each case was thoroughly investigated by this department, if the victim was a Nairobi resident, and by the Kenya Medical Department if the victim was living in the greater Nairobi area. An active and satisfying cooperation existed between the two departments.

The first case was reported in December 1953, the child having first shown signs of illness in late November. The first symptoms were sore throat of a mild degree, accompanied by headache, stiffness of the neck and generalised aches and pains in the joints. Throughout the epidemic these were the characteristic complaints — the type of complaint which normally people think little of and would term "a touch of 'flu". In several instances, it was found, on investigation, that family contacts had symptoms before the actual patient developed more positive symptoms such as paralysis or muscular weakness. There is little doubt but that a vast number of people had abortive poliomyelitis during the epidemic. Muscular weakness and/or paralysis developed from 12 to 14 days after these initial symptoms.

Of the European patients, 36 made a complete recovery, having no residual paralysis or weakness, 16 had residual paralysis of varying degrees and 7 died. It is interesting that five of the seven people who died were army personnel. All five had been leading physically strenuous lives for at least several days before they became ill.

The monthly incidence, in all races, is of some interest:—

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AGE INCIDENCE OF POLIOMYELITIS
1950 - 1954

The cases were scattered throughout the City and the surrounding district and in very few instances was it possible to trace one case back to another. Indirect contact was more evident than direct contact and it was possible to trace 8 groups involving a total of 21 people where there was an indirect contact probability; but the chain was not a long one in any group; thus Master A became ill on 27th November, 1953; Mr. A (the father) worked closely with Mr. B whose wife became ill on 12th December, 1953. Again Mr. C, who became ill on 23rd March, 1954, worked with Mr. D whose wife became ill on 6th April, 1954. In the cases which could be traced in this way it was found that the illness began in the second person 14 to 20 days after it began in the first person.

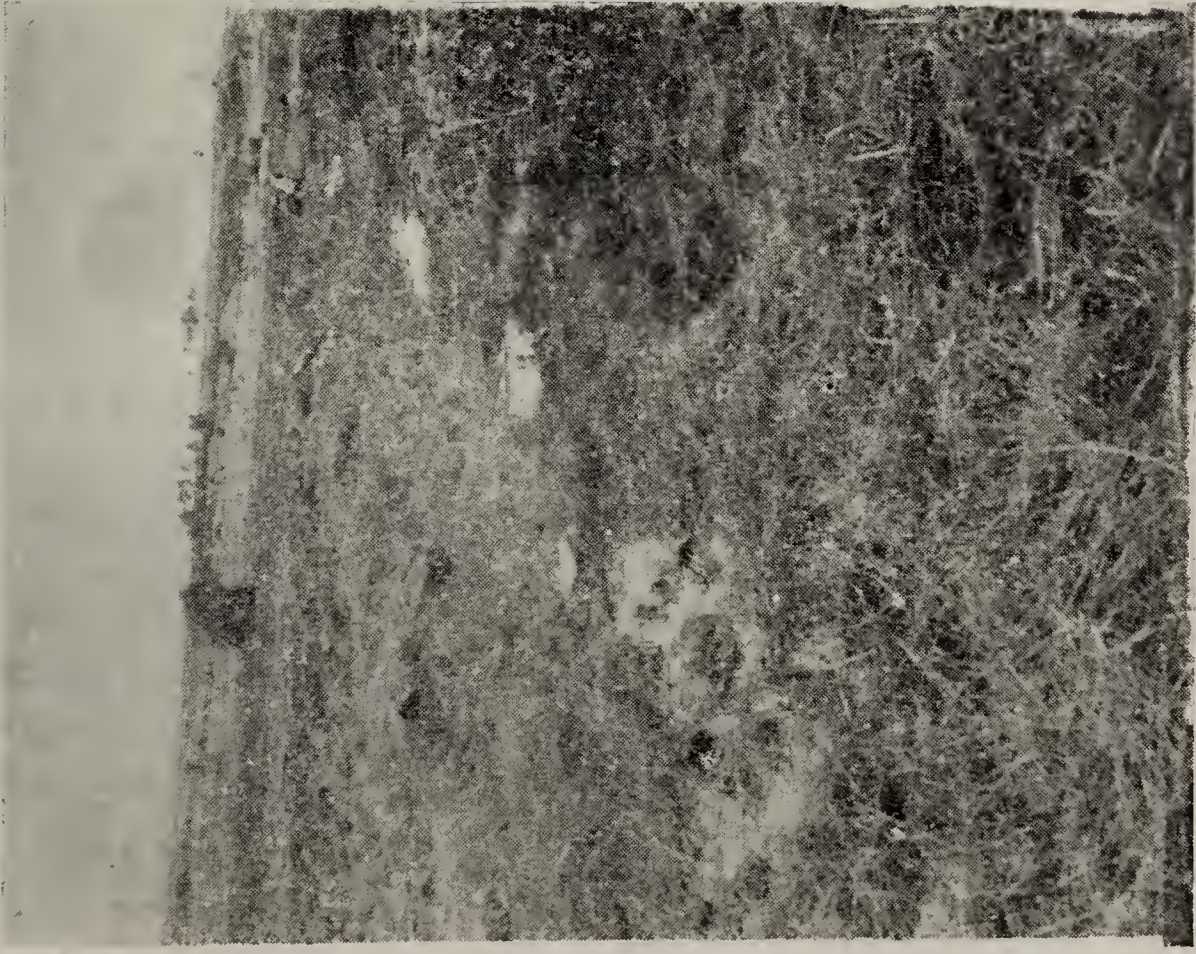
Direct contact was shown in 3 cases. In only 2 families did more than one member get definitely diagnosed poliomyelitis, although there was frequently a history of one member having had symptoms of flu. In the later stages of the epidemic the possibility of a psychological factor should not be discounted in regard to these histories since most people knew that these were the starting symptoms. In the three cases of direct contact the illness began in the second person 9 and 10 days after the onset in the first person.

No dramatic measures were taken to stop the spread of the disease and mature contemplation and study of the sequence and location of cases convinces one that dramatic measures short of confining everyone to their own houses would have been of no value.

The energies of the department were largely confined to keeping the public well informed, investigating promptly and thoroughly every case (and suspected case), issuing instructions to the population by means of pamphlets and giving talks to small groups. Investigation meant that parents and all other close contacts were seen by a member of the department and given advice on general personal, family and social precautions. It is thought that our liaison with the public was close and satisfactory and that this was as effective a way as possible of dealing with the epidemic.

Without being presumptuous, may it here be said that the public acted with great restraint and calm throughout the epidemic which was, of course, frightening in that the cases were so sporadic; and in so doing they made the work of the department much easier. It is only right, also, to thank the general practitioners of the City for their very close cooperation.

ANTI MALARIA WORK
SWAMP DRAINAGE IN NAIROBI.



BEFORE

Photo by A. GOES

ANTI MALARIA WORK
SWAMP DRAINAGE IN NAIROBI



AFTER

Photo by A. GOES

Section 5

MALARIA AND YELLOW FEVER CONTROL**Malaria Control**

The emergency deprived the department of the services of many of its trained Africans and by the end of the year losses had not been fully made up by trainees. The major difficulty in recruitment of new staff is the training period which should be in the region of 2 years, but most Africans think that after 3 months they should receive the salary of a trained man. They quickly lose interest and carry out their work merely as a means of drawing a wage until something else turns up. It follows therefore that of every ten men engaged as learners only 3 or 4 will stay to become fully trained.

Many and varied were the difficulties experienced in maintaining regular adult vector catches, due to the shifting population and mistrust. Homes would be found vacated or locked, on many occasions the sole occupant would be at work or in detention, and even houses used as adult catching stations were known to disappear overnight. Adult catching staff have been attacked by thugs and arrested by security forces; but all these difficulties were eventually overcome. Results will be found in the following table.

It was fortunate that a dry year coincided with our labour difficulties thus enabling the oiling of breeding places to be carried on with depleted staff on a bi-weekly basis. This system was in fact carried on throughout the year and newly recruited labour used to assist on anti malarial drainage work.

Some considerable nuisance has been caused by the heavy breeding of Culicine species in sullage water drains, stagnant rivers etc. This has become more noticeable since the general use of H. S. Oils on routine work, as this oil, though extremely efficient for the control of Anopheline mosquitoes, appears to have little effect on the Culicine.

This problem considerably exercised the minds of this department and numerous experiments were made. Eventually Messrs. Morrill and Gocs devised a method of control based on the plaster of paris/sawdust cube impregnated with D.D.T. which has been used from time to time in other territories. In this case, however B.H.C. Concentrate and Diesoline are being used as the larvicide and results have been most impressive. The cubes are easily and cheaply made and can be dispersed quickly and easily by the mosquito searchers, one or two per pool of water as required.

Anti-Malarial Drainage. Little clearing of anti-malarial drains had been possible until August when this department took over from the City Engineer. All rivers, streams and anti-malarial drains were thickly overgrown with vegetation and almost completely blocked with silt and refuse.

Upon taking on this work the department immediately sent a representative to Nyanza Province and recruited 20 labourers as a nucleus of the labour force required and which it is hoped to build up in 1955. A start was made on some of the worst drains but it soon became obvious that no progress on others could be made unless some means could be devised of maintaining the work already done. It was found that vegetation in these drains and streams grows several inches per week and consequently with a small labour force no progress is made from the first drain. Experiments were therefore started with weed killers and growth retarders, some interesting though inconclusive results being obtained by the end of the year, giving hope of success for 1955.

Recruited labour was augmented by detainees from the Remand Prison who were used to clear rivers and streams within the malaria control area but outside the city boundary thus enabling this department's labour force to be concentrated within the city.

In spite of difficulties considerable progress was made and following is a list of the work completed:—

a. Minor anti malaria drains in Eastleigh, Spring Valley, Kilimani, Location and Industrial Area (3 miles).

b. Rivers —	Getathuru River	...	...	5	miles
	Mathari River	...	...	5	miles
	Kabete Streams	...	...	1½	miles
	Part of Ngong River	...	...	1	mile
	Total	...	...	12½	miles

c. Streams and Large Anti Malaria Drains,

	Mission Stream	...	...	1	mile
	Medical Drains	...	...	1½	miles
	City Park Drain	...	...	2¼	miles
	Total	...	...	4¾	miles

This gives a total of approximately 20 miles cleared which includes the cutting of grass in the bed and on the banks of stream or drain and straightening where required.

Malaria. 118 cases of malaria were notified as having been contracted in Nairobi, a reduction of 16 on the 1953 figure. Of these 89 were sub-tertian, 12 benign tertian and 17 clinical.

Distribution of cases was as follows:—

African Locations 56, Eastleigh Asian/African area 14, Central mixed area 8, Parklands Asian/African area 6, Hill European/Asian area 16, Southern & Western European area 3, Industrial area 2, not stated 13.

YELLOW FEVER — AEDES (DOMESTIC MOSQUITO) CONTROL.

In spite of the difficulties of working with half the African Staff consisting of trainees some of whom were unfamiliar with city life and the continual round ups by security forces this section carried on with very little loss of efficiency.

The number of premises to be inspected, of course, increased again as it will continue to do each year, the increase in 1954 being 287 over the 1953 figure of 10866, making a total of premises inspected weekly of 11,173. The total number of inspections made during the year numbered 559082, and from these 6,575 collections of larvae were made. These collections of larvae were divided as follows—Culicine species 6463, Aedes species 83, Anopheline species 29.

The increase in Aedes and Anopheline collections can be attributed to labour difficulties—lack of domestic staff, partial breakdown, for a time of cleansing services, abandonment of excavations etc., whereas in the case of the Culicine mosquito the house-holder is at last being convinced that mosquito will breed in dirty, soapy water from baths, kitchen sinks etc., and are being persuaded to take care of the disposal of their waste water — hence a reduction, slight but hopeful, in the number of collections of Culicine larvae. 5904 warning notices regarding mosquito breeding were served during the year and in the majority of cases this proved sufficient, having brought to the culprit's notice a breeding place overlooked by him.

There were, however, the usual stubborn or careless individuals who require to be dealt with by a magistrate before any result are obtained. These numbered 76, against 5 of whom the case was withdrawn for various reasons and 3 were pending at the end of the year. The remaining 68 persons paid a total of Shs.5,065.00 an average of Shs.74.00 per case.

The Aedes Indices for the year were still well within the required standard being:—

To foci 0.004% or 4 collections per 100,000 foci inspected

To premises 0.014% or 14 collections per 100,000 premises inspected.

TABLE 8

Aedes Permanent and Temporary Breeding Foci and Indices.

No. examined	Larvae species found (times)				Larvae species found (per cent)			
	Aedes	Anopheles	Culex	All Species	Aedes	Anopheles	Culex	All Species
PERMANENT FOCI:-								
Septic Tanks	—	—	1,444	1,444	—	—	1.955 %	1.955 %
Rain Water Tanks	24	—	61	85	0.099 %	—	0.252 %	0.352 %
Gullies	1	—	225	226	0.0003 %	—	0.072 %	0.073 %
Earth Drains	—	11	404	415	—	0.009 %	0.349 %	0.359 %
Concrete Drains	1	—	351	352	0.0002 %	—	0.067 %	0.067 %
Soakage Pits	—	—	1,473	1,473	—	—	2.242 %	2.242 %
Bath Pits and Sunken Drums	1	—	1,035	1,036	0.002 %	—	1.996 %	1.998 %
Water Meters	—	—	161	161	—	—	41.709 %	41.709 %
TOTAL Permanent Foci	27	11	5,154	5,192	0.002 %	0.001 %	0.425 %	0.427 %
TEMPORARY FOCI								
	56	18	1,309	1,383	0.009 %	0.002 %	0.211 %	0.223 %
GRAND TOTAL	83	29	6,463	6,575	0.004 %	0.001 %	0.353 %	0.359 %

Laboratory

Work in the laboratory carried on more or less as usual although towards the end of the year specimens from clinics increased to such an extent as to severely tax the resources of the laboratory staff. As the junior laboratory assistant was engaged in part time service in the Kenya Police Reserve a great deal of extra work fell on the senior, Mr. W. Ongare, who carried on with commendable efficiency.

Details of this laboratory work will be found throughout the report under the various sections but the following summary will give some indication of the amount of work carried out:—

Blood Slides — Malaria

Positive	1,263	7,917
Negative	6,754	

Stools Examination for Ova and Cysts

Positive	1,925	4,882
Negative	2,957	

Venereal Smears (gonococcus)	Positive	371	9,464
		9,093	

Sputums — T.B.	Positive	5	
	Negative	33	38

Urine Specimens		107	107
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Blood Counts	Total	2	5
	Differential	3	

Examinations for P. Pestis, 2 slides per rat		13,444	13,444
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Total specimens examined			35,857
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TABLE 9.

A. Gambiae Caught in Fifty-two Collecting Stations.

Stations	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Eastern	—	—	—	—	5	17	46	4	—	—	—	1	73
Southern & Western	—	—	—	1	1	3	1	—	1	—	—	—	7
Northern	—	—	—	—	—	—	—	—	—	—	—	—	—
Central	1	—	—	—	—	—	—	—	—	—	—	—	1
TOTALS	1	—	—	1	6	20	47	4	1	—	—	1	81

TABLE 10.

Malaria Cases and Adult Gambiae Catches by Months.

(Residents contracting in Nairobi.)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Europeans	—	1	2	1	2	1	1	1	4	1	5	2	21
Asians	—	—	2	—	4	5	—	—	3	1	1	—	16
Africans	2	3	5	2	10	14	7	13	5	8	6	6	81
Gambiae Catches	2	4	9	3	16	20	8	14	12	10	12	8	118
TOTALS	1	—	—	1	6	20	47	4	1	—	—	1	81

TABLE 11.

Malaria.

	Attack Rate per		Death Rate per	
	Cases	10.000	Deaths	10.000
Europeans	21	12.00	1	0.57
Asians	16	2.53	2	0.31
Africans	81	8.10	15	1.5
TOTAL	118	6.53	18	0.99

TABLE 12.

Attack Rate Over Past Five Years.

	1949	1950	1951	1952	1953
Attack Rate 10.000	24	45	50.4	22.5	7.6

Section 3.

RODENT AND VERMIN CONTROL**Rodent Control**

This proved another difficult year for this section, as during the Anvil round up all but five of the African Staff were detained for screening, those detained including the overseer, James Karebe. As a result the year was almost gone before returning detainees and new recruits again made the section fully operational.

The skeleton staff did however carry on very well indeed in face of very great difficulties. This is borne out by results, shown by the following tables to be very little less than those of previous years. Twelve notices to rat proof premises used for the storage or sale of foodstuffs were served and all were complied with. Many other improvements to premises were obtained without resort to notices.

Plague. No cases of plague occurred in the City during the year.

Rat Examination. Examination for *P. Pestis* of selected batches of dead rats was carried out when possible, 6,722 rats being examined with negative results.

Rodent Destruction. The following table shows the total result of the year's work:—

TABLE 13.

Total Kill

Rattus rattus	3114
Mastomys coucha panya	5405
Arvicanthis abyssinicus	6255
Otomys angoniensis	104
Mice (all species)	3871
Others	456
TOTAL	19205
Estimated Kill, gas and poison	1000
All species (Railway admin.)	6000
TOTAL	26205

Some poisoning and gassing of burrows was carried out with trainees under the close supervision of the Rodent Officer but as all labour was in the process of being trained and therefore taking up much of this Officer's time, this work was limited.

Repeated round up operations by security forces not only removed trained labour and trainees but also the tools of their trade, in this case rat traps, pangas and jembies. In this way over 500 rat traps, 6 pangas and 13 jembies were lost.

Handcatching again proved to be a very useful method of dealing with rat infestations, the highlight of the year being the record catch of 1,842 rats by hand in the store of a large firm of flour millers.

This infestation was discovered by the Rodent Officer during routine inspection and arrangements were made for all the goods to be removed to other premises in order that a thorough cleanup could be made. A small gang of rat catchers was therefore stationed on the spot for a period of just over a week whilst this work was in progress and it is reckoned that only about half a dozen rats escaped their expert hands. These were later poisoned or trapped.

In July a request for assistance in dealing with a rat infestation was received from a Bacon Factory in the troubled area 30 miles north of Nairobi. The Rodent Officer with two rat catchers visited and returned to Nairobi the same day having killed 206 rats and given instructions for carrying on both rat destruction and preventive measures.

Anti-rat work for the public on re-payment continued. A fixed charge of Shs.25/- per premise being made. This usually entails a loss to the department particularly in premises on the outskirts of the city, necessitating journeys of 10 miles per day to inspect traps or poison baits. Savings can however be made by the use of the non-pre-baiting anti-coagulant Rodenticides, when usually only three visits need be made. Charges for this work in 41 premises amounted to Shs.1,485.00.

VERMIN CONTROL

This section not only suffered through loss of staff but by increase of work due to the setting up of detention camps and the need for strict fly and vermin control.

The table which follows sets out the work performed on repayment but in addition a considerable amount of other spraying and insecticidal fogging work was carried out as a charge to public funds, notably when the poliomyelitis epidemic was at its height. At this period several large thickly populated areas of the city were fogged with D.D.T. and B.H.C.

using the T.I.F.A., to reduce the fly population and renew the confidence of the public who were becoming increasingly alarmed as the epidemic continued.

In this respect also the Fish and Meat Markets were sprayed daily and the comparative absence of flies following on the introduction of this system was most noticeable — as also was the absence of complaints. It is intended to continue this service.

Sales of insecticides at cost to the public continued to soar and in 1954 reached the figure of 13,000 pints sold. This scheme is now familiar to the public and is proving not only a boon in itself but also serves to bring them more into contact with the department and its propaganda.

The income from vermin work and sales of insecticide amounted to £2,882.8.65.

TABLE 14.

Trapping in Native Locations

	Rooms Trapped	Houses Trapped	Rooms or Houses infested	Index	Trapping Days	Rattus rattus	Mice	Others	TOTALS
Kariokor & Ziwani	—	—	—	—	—	—	—	—	—
Pumwani & Gorofani	—	377	161	45.3%	100	99	175	—	275
Starehe	—	—	—	—	—	—	—	—	—
Shauri-Moyo	—	369	229	62.5%	72	17	763	9	789
Kaloleni	268	—	118	44.2%	42	10	388	—	393
Bahata	—	—	—	—	—	—	—	—	—
TOTALS						126	1322	9	1457

Private and Special Trapping and Handcatching

Rattus rattus	2014
Mastomys	5
Arvicanthis	—
Otomys	—
Mice	104
Others	—
TOTALS	2123

Trapping — Commercial Area

Rooms Trapped	Rooms Infested		Trapping Days	Rattus rattus	Mice	Others	TOTALS
1726	354	2.5 %	184	363	431	—	794

Hand Catching in Buildings

	Commercial Area	Kariokor and Ziwani	Shauri-Moyo	Bahati	TOTALS
Rattus rattus	30	35	—	7	72
Mice	57	22	195	—	274
Others	47	—	—	—	47
TOTALS	134	57	195	7	393

Handcatch in Open Areas

	Kariokor and Ziwani	Pumwani and Gorofani	Shauri-Moyo	Kaloleni	Bahati	Abattoir	Swamp	Ngara and Pangani	Other Areas	TOTALS
Rattus rattus	37	17	74	49	28	18	126	136	54	539
Mastomys coucha panya	62	876	1776	161	32	62	1433	953	45	5400
Arvicanthis abyssinicus	64	281	1745	932	344	142	449	1532	766	6255
Otomys angoniesis	—	4	27	5	17	—	18	4	29	104
Mice	79	25	291	93	90	4	580	342	236	1740
Others	243	1225	4125	1257	526	268	2652	2987	1155	14438

Disinfestations

	European	Asian	African	Offices	Stores	Cars	Blankets	Mattresses	Miscellaneous
Cockroaches	65	10	—	—	—	—	—	—	10
Bed bugs	139	27	1019	55	8	4	—	—	—
Fleas	276	—	—	4	4	—	—	—	—
Ticks	10	—	—	—	—	—	—	—	—
Bats	4	—	—	—	—	—	—	—	—
Miscellaneous	30	—	165	—	8	—	3200	1660	50
TOTALS	524	37	184	59	20	4	3200	1660	60

Section 7.

SANITARY ADMINISTRATION

Probably the chief aspect of our work during the year and the one which has been before the public eye above all other things apart from the emergency has been that of cleansing the City of junk and refuse. It may come as a surprise to a large number of people that we are still troubled with considerable quantities of scrap which litters the town and reminds us of the late war.

We have dealt with such accumulations at a steady pace since the war ended but with the added deposits of accumulations of derelict and worn-out motor cars they have during the past year come to the notice of members of the City Council and the Public and caused than usual apprehension and as a result the removal of this junk has been placed high on the list of priorities.

A special campaign was inaugurated during the year to remove these materials and to inculcate in the population the need for better methods of disposal of refuse and other materials.

The department has, of course, been fully alive to this matter for years, but as always, the shortage of the necessary transport, the non-provision of authorised dumping grounds, and the difficulty of maintaining a reasonably permanent set of employees have all interfered with steps to establish the necessary organisation.

There is now, however, the possibility that an area of land will be set aside for a motor-car grave yard in which all junk will be placed before final disposal. Such a place will at once remove one of the more hackneyed excuses of the people who deposit such goods in unauthorised places, on the road-side or on any piece of vacant land which suits their convenience, the excuse that no authorised place exists on which to dump their old iron.

It is most unsatisfactory for all concerned, the staff, the offender and the magistrate who tries cases, when we have to admit that the Council, which is the Sanitary Authority have made no arrangements for the reception of what is, after all, refuse, and the residue of a legitimate trade. It is true that many offenders would not bother to remove their scrap until compelled to do so, and the fact that such people have taken

advantage of the lack of proper facilities is something which should have been foreseen and arrangements made to avert it. Such arrangements are now being discussed and when the dumping ground has been allocated we shall be in a position to demand the removal of junk and other scrap to the area set aside and from there arrange for burial, sale for export or some other method of disposal. All this refers, in the main to junk on private land and the question of having Crown land cleared of scrap and

other refuse remains to be settled. There are large areas of public land unfenced and unprotected and which serve, if anything, to encourage the dumping of unwanted materials upon them.

The Lands Department should be given the authority and the money to do whatsoever may be necessary to prevent land in public ownership becoming eyesores as refuse tips. The Crown should be expected to remove all refuse and junk or be provided with funds to reimburse the City Council for services rendered in the cleansing of such lands. It has been suggested that as a preventative measure Crown lands within the City should be fenced or surrounded with a ditch to prevent the trespass which results in the misuse of the land, especially the dumping of old car and lorry chassis and other heavy materials.

This is not a matter of fleeting importance for there will be large areas of unbuilt-on Crown land within the City for many years to come.

As in the case of such open areas we also have many miles of rough unpaved service lanes, which go by the misnomer of sanitary lanes, and unkept estate roads which, because of their overgrowth of grass and weeds, their potholes, cart ruts and general air of abandonment invite the deposit of refuse junk and even filth.

With labour troubles being what they are it is physically impossible to deal with these cases with the speed and efficiency one would like.

Insufficient labour to do the work required to maintain reasonable hygienic conditions is the excuse heard daily when nuisances are reported and, to some extent, this is true. However, in going deeper into the question one cannot fail to notice an undesirable trend which may be a result of our educational system — the tendency to put a premium on collar and tie jobs — without the required ability to wear them, and the distaste which is quite apparent among the majority of the inhabitants to do work which they falsely consider to be beneath their dignity.

The dignity of labour must first be taught and given substance and the word menial made obsolete where applied to honest work. So-called labour troubles might then decrease and the day-to-day tasks be performed without quibble and certainly without loss of dignity. But the rewards for labour must be just and adequate.

Work required to promote Public Health should not be considered as something that only the lowest dregs of society can perform, it should be given a status at least equal to that of clerks and messengers. And then we may see less of the obnoxious conditions so prevalent today, piles of refuse, filthy drains and unswept lanes and streets.

Such lanes and streets should, notwithstanding their private status, be cleansed by the sanitary authority as a sanitary service if hygienic conditions are to be secured and maintained.

This will cost money. But if the aim is to be a healthy City, the removal of refuse and the clearing and cleansing of streets and the sweeping of open drains and sewers everywhere must be considered as a public sanitary service.

We have, what would seem to a large number of people, the somewhat Gilbertian situation of having service lanes which are used by the Council for ordinary sanitary services but which are not maintained in a sanitary state by the inhabitants at large. At times these lanes become ponds of mud, are impassable, and prevent the carrying out of the normal services to which the householders are entitled. We have the ugly sight of up-turned dustbins and piles of refuse which remain for long periods, refuse which in time forms solid mounds or is trampled into the ground simply because the removal of such rubbish is considered as maintenance of the lanes in question and any suggestion of upkeep and maintenance being done by Council must on no account be permitted. However, with the law as it now stands such fears are unfounded and the establishment of cleansing gangs to attend to service lanes and other unmade roads is an urgent necessity. Nor it is suggested should be Council stop at that. Pot holes and car ruts of filthy water should be filled in and any other work in the category of sanitary services should be undertaken until such time as the roads and lanes are drained and paved to the usual standards, when most of the nuisances inseparable from mud tracks will cease to exist. At present the staff does attend to the removal of the more serious nuisances by invoking the provisions of the Public Health Ordinance but this is a clumsy way of dealing with matters which should be dealt with as a routine.

The control of dumping and the apprehending of offenders, whether sweep all roads and lanes whether adopted or not, to remove all refuse from such road reserves and to keep them in as hygienic a state as one would expect on roads adopted by the City Council.

Refuse, junk, insanitary or unsightly materials should — indeed, must, — be removed as and when it is seen. If the owner or other culprits can be found by all means charge them with the cost or prosecute without warning but there should be a stop to hair-splitting administrative and legal quibbles and evasive red tape haggling; the staff should be supported and no obstacle should be placed in their way of bringing about a clean and healthy city — a city in whose cleanliness we can feel pride and not, as at present, shame.

The control of dumping and the apprehension of offenders, whether they be lazy, culpable and indifferent residents, or human scavengers who upset dustbins, is most difficult in a City the size of Nairobi with its un-economic spread and lack of sufficient supervision.

The results of inefficient or insufficient supervision are daily dealt with by members of the staff whether it be in the open streets, in shops or in factories, but although individual premises may be dealt with at once, nuisances of a public kind can only be removed after much time and trouble.

Many of the faults and defects exist in Nairobi to an extent not seen in towns and cities peopled with individuals possessing a higher state of sanitary knowledge, and yet such other places deem it necessary and find it advantageous to employ policemen to patrol constantly the roads and lanes forming their beat.

The very presence of these guardians of the law is a deterrent to would be creators of nuisances, but alas, Nairobi with its area of thirty-two square miles cannot possibly be patrolled with anything like the efficiency required. Hence the almost uncontrolled dirty habits of a section of the people and the causes of much heartburning and expressions of anger by the more enlightened sections of the community. To make matters worse suitable labour has been scarce and may continue so — a state of affairs which may require further mechanisation of sanitary services. Small graders, earth (refuse) movers — self loading vehicles — the field for inventive genius is very wide.

Where labour is scarce or unsatisfactory or when service or productive economy assumes the importance it has in Nairobi it behoves us to turn our minds towards further mechanisation as the answer to many problems. Not the least is that of building.

True, we have seen a tendency in recent years to adopt machines to do in a quicker and much more effective way, work which in the past has been done by inexperienced and incapable hands. Next to prefabrication, in which machinery can and is used extensively, the more urgent need is for mechanisation on the site. This may not be so apparent with single storey structures but, if the best use is to be made of building land, higher buildings must be encouraged and to erect these with the speed and efficiency which results in economy more mechanisation is required and a great deal can yet be done along such lines.

Given a sewerage system and disposal works of sufficient capacity to deal with the wastes, the present practice of spreading single storey dwellings over many acres of land with the concomitant increased mileage of roadworks, would cease, and double or three storied blocks of flats or tenements could be created to accommodate the workers considerably nearer their places of employment.

Transport, not only of labour, but other services may become a problem in the not too distant future because since development over the past few months has followed the ribbon pattern, the people residing

at the City boundary end of the ribbon will be far removed from their places of work and the main shopping centres, and sanitary service vehicles and other transport will have many unprofitable miles to cover.

From the point of view of economics it simmers down to a question of capital expenditure for closer development now, or a constant drain on rates and incomes for roads, conveyances and other transport requirements for years to come.

The main estate roads too, will obviously be double or even treble the length they would need to be if a more compact system of housing were to be adopted.

The only real justification for development by organised dispersal as opposed to a more compact method of planning by flats or tenements is that of urgency and then only for houses of temporary construction.

To those who are interested in African housing the real progress made during 1954 coupled with the plans for the immediate future gives cause for a satisfaction which one is not often in the happy position to express. Public and private accommodation for Africans was actually provided for over 6,000 persons, while housing for about another 4,500 was either under construction or in hand. It is to be regretted that funds, plant and the necessary organisation were insufficient to provide sewers to serve the various locations and in consequence the insanitary pail closets must, perforce, be suffered.

Yet, notwithstanding all that has been done and is about to be done there is the feeling that we are only beginning to deal with the arrears of many lean years dominated by a policy of indecision. The position has been somewhat eased by the removal of many thousands of men, in particular, the Kikuyu but already people of other tribes are being advised to "go to Nairobi where there are plenty of jobs".

But there are not, also, plenty of houses to accommodate them, and so that state of being in arrears will no doubt continue for many come to seek employment. The recommendation was made in 1948 that years, unless steps are devised now to limit the number of workers who a camp be constructed to provide temporary accommodation for those seeking work and strict control be kept over temporary guests. Failing the success of the genuinely unemployed in finding employment after a reasonable period they could be returned to the reserves. It has been due to the "Free Country" policy that the many thousands of respectable home loving workers have had to give shelter to these sometimes not so itinerant reservists, to feed them, and to receive in payment nothing at all or the proceeds of pursuits unknown.

Then in 1949, The Voluntarily Unemployed Persons Ordinance became law an ordinance which has at once given the appellation of the "Spivs" Ordinance. This attempt at control was a move in the right direction and some such legal enactment should remain law for the general benefit of the permanent African residents, who wish, like many other people, to live their lives as families in a home they can call their own.

It was necessary a year or so ago, to lay out an estate on which Africans could build their own houses of temporary materials. This step was at once a palliative and an encouragement because there was no doubt that employees were determined to live in the City and they had previously built shacks on any piece of vacant land which took their fancy — but built them without any sort of order and without sanitary conveniences or water supply for their needs. This estate was laid out — temporary roads and drains made, water laid on and each home was, as a condition, built to an approved design.

The scheme was an encouragement in that help was given and the way was shewn to become a householder of some substance, for the temporary buildings could be replaced by stone structures with a life of many years. Desirable as this scheme was it suffered a set back almost at once by the detention of large numbers of would-be owner-occupiers, action taken as part of the measures to deal with the emergency. Nevertheless, the progress made in housing would have been commendable in normal times, but to have progressed as it has during the height of the emergency is truly remarkable.

Given sufficient funds — and more expensive labour may have to be employed — then it may be possible to record similar progress in sanitary administration during the present year. There is much room for improvement.

Liquor Licence Applications

Non-Spirituos	...	...	...	...	90
Wine Merchants and Grocers	...	...	...	...	60
General Retail	...	...	...	...	11
Wholesale	...	...	...	...	7
Restaurants and Hotels	...	...	...	...	9
Others	...	...	...	...	4
					181
					181

With the exception of restaurant licences the figures show an all round increase in applications over the previous year, the non-spirituos applications alone going up by over 83%.

This is to be expected, and with sanction to establish on-licence premises further increases in this type of business is almost certain to be sought. However, any applicant who thinks that a beer-bar can be set up in any third rate premises will suffer disillusionment, for the standards to be set will be high — something very few of the aspiring beer sellers have yet experienced.

City Mortuary.

The number of bodies received into the City Mortuary were:—

African	...	...	...	...	284
Asian	...	...	...	...	27
Europeans	...	...	...	...	41
					<hr/> 352 <hr/>

Many discussions took place regarding the siting, structure and lack of dignity in connection with this building, suggestions were made, agreements apparently reached, but no firm action has been taken.

The mortuary is, it would appear, just one of those things which local authorities are expected to provide but being non-productive and associated with unpleasant occurrences, is not tackled with the energy and forthright treatment usually given to institutions of a more pleasing character. An up-to-date place in which to lay the dead is urgently required, a chapel-like structure or shrine to which relatives may go without, as at present having their already saddened hearts crushed further by a visit to the Council's whitewashed sepulchre.

Bodies were removed from:—

	1954	1953
King George VIth Hospital	489	478
Pumwani Maternity Hospital	164	164
City Mortuary	194	151
Prison	362	138
Mathari Mental Hospital	47	99
Infectious Diseases Hospital	38	48
General Dispensary	3	—

The number of Africans buried by the Council continues to increase and has now reached over 97% of the total African deaths. The most notable increase — a sign of the times — is in the burials from the prison, 362 as against 24 in the year 1952.

SUMMARY OF WORKS PERFORMED

Nuisances:

Inspections made to:—

Dwelling Houses	...	...	...	...	4614
Laundries	...	...	...	...	208
Offensive Trades	...	...	...	...	32
Stables and Cattle Sheds	...	...	...	...	46
Trade Premises and Offices	...	...	...	...	2281
Public Buildings	...	...	...	...	192
Buildings (other)	...	...	...	...	369
Open Spaces, Streets etc.	...	...	...	...	2112
Swimming Baths	...	...	...	...	93
Barbers	...	...	...	...	236
Camps	...	...	...	...	78
Second Hand Clothing Dealers	...	...	...	...	116
Miscellaneous	...	...	...	...	306
Total					10683

Complaints Investigated 748

For inspections of food premises see separate table.

Defects Remedied:

Latrines	...	...	...	...	878
Drainage	...	...	...	...	772
Refuse Accumulations	...	...	...	...	368
Unauthorised Buildings	...	...	...	...	91
Dirty Premises	...	...	...	...	326
Unfit dwellings including huts	...	...	...	...	53
Taxi Cabs	...	...	...	...	10
Mosquito Breeding	...	...	...	...	78
Premises rat infested	...	...	...	...	2
Yards unpaved	...	...	...	...	39
Miscellaneous	...	...	...	...	79
Total					2696

Defects Remedied in:

Dwelling and Offices	...	...	...	...	483
Public Buildings	...	...	...	...	4
Food Factories	...	...	...	...	7
Laundries	...	...	...	...	1
Open Spaces — Vacant Plots	...	...	...	...	302
Eating Houses	...	...	...	...	81

Restaurants and Tea Rooms	...	...	...	53
Grocers and Provision Dealers	...	...	...	181
Hotels and Bars	...	...	...	58
Barbers	...	...	...	46
Bakeries	...	...	...	21
Butchers	...	...	...	83
Dairies	...	...	...	11
Vegetable Dealers	...	...	...	16
Food Carrying Vehicles	...	...	...	8
Swimming Baths	...	...	...	3
Unspecified	...	...	...	58
Total				1416

Inspections of Premises subject to special control:

Aerated water factories	...	...	...	308
Bakeries	...	...	...	192
Butchers and Fishmongers	...	...	...	915
Dairies and Milkshops	...	...	...	388
Eating Houses	...	...	...	946
Food Factories	...	...	...	192
Groceries and Provisions	...	...	...	1991
Restaurants	...	...	...	454
Hotels and Bars	...	...	...	558
Market (stalls)	...	...	...	108
Vegetable Dealers	...	...	...	356
Total				6408

Licences:

Trade premises inspected	...	...	...	1759
Taxi cab inspections	...	...	...	204
Food Carts: Milk, meat, bread, etc.	...	...	...	273

Erection and Alteration of Buildings:

(Public Health Department supervision only).

Plans scrutinized (including sub-divisions)	...	491
No. of premises connected to sewers	...	57
No. of new water closets discharging into sewers	...	176
No. of new septic tanks approved	...	190
No. of new pail closets	...	39
No. of conversions	...	20
Completion Certificates issued	...	74

Unauthorised Buildings:

Inspections made	...	...	...	...	131
Notices served	...	...	...	...	58
Reference to other departments	...	...	...	...	30
Structures demolished (P.H.D.)	...	...	...	...	91

Notices Served:

Intimation (Verbal)	...	...	...	...	3510
Intimation (Written)	...	...	...	...	408
Public Health Ordinance	...	...	...	...	648
By-laws	...	...	...	...	632
Others	...	...	...	...	42

Prosecutions:

					Cases
Public Health Ordinance	...	...	...	...	59
By-laws	...	...	...	...	79
Milk and Dairies Regulations	...	...	...	...	3
Others	...	...	...	...	2

Total Fines Shs. 10,061/- with cost of Shs. 773/-

One prison sentence only was awarded — 2 months hard labour.

TABLE 15.

Unsound Food Condemned

Groceries	...	...	...	...	...	15,741
Vegetables	...	...	...	...	...	32,144
Cheese	...	...	...	...	...	78
Fish	...	...	...	...	...	2,178
Fish-tinned	...	...	...	...	...	862
Confectionery	...	...	...	...	...	2,495
Fruit — dried	...	...	...	...	...	4,074
Poultry	...	...	...	...	...	576
Patent Medicines		...	...	...	...	180
Total						58,323
Eggs	...	...	...	...	...	730

Section 8

FOOD INSPECTION**Food Preparation**

The year began with a sharp reminder of what could happen if vigilance were relaxed regarding the hygienic handling of food. On a Monday morning early in January reports reached this department of several cases of what appeared to be food poisoning. Investigations began at once and it soon became apparent that a very large number of people had been affected, one of whom (a child 3 years old) had died. The cause of death was found to be dysentery. Stool specimens taken from other patients gave largely inconclusive results as treatment had already been given, but the symptoms indicated dysentery. The history which eventually emerged was as follows. All those affected had attended a Goan wedding on the previous Saturday. Between Saturday night and Monday night some 150 persons of all ages had suffered from attacks of dysentery, some of which had been extremely severe. The outbreak was eventually traced to an individual who had taken a major part in the preparation of the food. He had been specially engaged and had prepared a large variety of dishes, some as much as 24 hours in advance, in the courtyard of the bridegroom's house. With some difficulty it was established that he was a carrier of Sonnei dysentery. The severity of the outbreak was undoubtedly attributable to the length of time available for incubation of the bacteria in the food prior to consumption.

The lessons to be drawn from this incident are too obvious to require emphasis, but it is fortunate indeed that the individual concerned was not engaged in a catering establishment.

Milk.

In February several outbreaks of foot and mouth disease were notified in areas from which milk was being delivered to the City. The disease continued to spread until July and it was fortunate that the considerable drop in supplies from these sources was completed for by the seasonal increase in output from farms were unaffected.

Some authorities have been inclined to minimise the risk involved in consuming milk which has been exposed to foot and mouth disease infection, but this department insisted on pasteurisation of all suspected supplies, if sold within the City. The wisdom of this decision was vindicated by the report of three cases of confirmed foot and mouth disease in one family in an up-country area later in the year.

The compulsory bottling of milk by all dairymen, introduced in 1953, soon revealed the lack of adequate facilities and experience required to produce sterile containers. The fact that all dairies are required by

law to be equipped with means for washing and sterilizing bottles is not a guarantee that these are always used or used properly. The bacteriological examination of bottle rinses soon proved what had already been fairly obvious. As a result of continual pressure three dairies which had hitherto relied on manual operation have now installed automatic plant, while others have placed orders for similar equipment.

There is some evidence that it is now being realised that up-to-date machinery is more efficient, reduces staff and eliminates a large proportion of breakages, as well as giving a much better appearance to the dairy.

The adulteration of milk by the African roundsman remains a problem yet to be completely solved, but all too often legal proceedings are abortive due to the fact that the customer does not take personal delivery of the milk. The prevalent practice of delivering milk in the early hours of the morning, while it is still dark, makes adulteration a profitable business with little risk of being caught in the act. Efforts to prohibit the delivery of milk before dawn have so far failed, largely because so many customers insist on receiving their milk in time for breakfast. This habit, however, will have to be broken if progress is to be made towards a more hygienic and reliable method of delivery, for quite apart from the risk of adulteration, delivery by an African roundsman with a bicycle or handcart is uneconomical and unsatisfactory in many ways. It is to be hoped that the time is not too far distant when the milk boy, wrapped up in any kind of ragged garment to protect him against the chill of the early morning, with a crate or two of bottles packed with straw of doubtful origin, will give place to a small fleet of attractive motor vehicles driven by a wholesome looking white coated roundsman. But the achievement of this aim will depend as much on the co-operation of the customer as on the Health Department or the dairyman.

The response to the school milk scheme inaugurated last year has been most disappointing. Out of 29 European and Asian day schools only eleven were participating in the scheme at the end of the year and only 1,423 bottles of milk were being taken daily. It is hoped that propaganda measures to be developed during 1955 will result in a much wider acceptance of this excellent means of supplementing the diet of many children with nature's most complete food.

Mineral Water Factories.

During the year, one mineral water factory which failed to comply with the Council's requirements was closed. Construction of two new factories took place, one of which has been completed and is now in operation.

Gradually the old idea that any type of factory will do so long as it satisfies the minimum requirements of the law is giving place to a realisation that an attractive factory is good for business, and that there are many administrative and technical advantages in having modern, well-equipped hygienic premises. Present indications are that it will be possible to give an account of considerable progress in this direction in the next annual report.

TABLE 16

1. Resazurin Tests

Month			Category			Total
			A	B	C	
			4 — 6	1 — 3½	0 — ½	
January	...	...	270	12	22	304
February	...	...	280	24	46	350
March	...	...	172	29	38	239
April	...	...	141	5	16	162
May	...	...	150	17	28	795
June	...	...	172	8	12	192
July	...	...	225	12	3	240
August	...	...	224	9	4	237
September	...	...	260	29	33	322
October	...	...	199	22	15	236
November	...	...	212	2	14	228
December	...	...	178	30	7	215
TOTAL	...	...	2483	199	238	2920

2. Phosphatase Tests

Efficiently Pasteurised	Inefficiently Pasteurised	Not Pasteurised	Total
23	—	—	23

3. Estimation of Fat and Non Fatty Solids

			Satisfactory	Unsatisfactory	Total
Milk	...	...	543	45	588
Cream	...	...	1	6	7
TOTAL	...		544	51	595

Samples Submitted by Food Inspector to Government Chemists

Article				Satisfactory	Unsatisfactory	Total
Acetic acid	...	...	...	4	2	6
Butter	...	...	...	1		1
Beer	...	...	...		1	1
Coffee	...	...	...	3		3
Cooking fat	...	...	...	1		1
Dripping	...	...	...	2		2
Fruit	...	...	...	3		3
Fruit squashes	...	...	...	10	2	12
Ghee	...	...	...	2		2
Jam	...	...	...	2		2
Pepper	...	...	...	6		6
Posho	...	...	...	1		1
Salt	...	...	...	1		1
Spices	...	...	...	1		1
Sugar	...	...	...	2		2
Tea	...	...	...	2		2
Tinned cherries	...	...	...	1		1
Tinned fish	...	...	...	1		1
Tinned milk	...	...	...	1		1
Vinegar	...	...	...	6		6
Water (other sources)			...	3	1	4
TOTAL				53	6	59

Samples Submitted by Food Inspector to Government Bacteriologist

Article	Satisfactory	Unsatisfactory	Total
Aerated waters	198	38	236
Bottle rinses (aerated waters)	10	10	20
Bottle rinses (dairy)	13	36	49
Food	4		4
Quarternary Ammonium Compounds	1	1	2
Stools	12	11	23
Swimming baths*	7	15	22
Water (town mains)	234	9	243
Water (other cources)		1	1
TOTAL,	479	121	600

*These samples were taken in the course of an investigation into the use of Quarternary Ammonium Compounds as a sterilizing agent in Swimming bath water.

Legal Proceedings instituted in connection with Food Offences

Nature of Offence				Prosecutions	Convictions	Penalties	Costs
Public Health Ordinance							
Section 131 b	Failing to protect foodstuffs						
	against contamination	...		1	1	300/-	14/-
Section 131	Selling unsound food	...		1	1	100/-	14/-
Milk and Dairies Regulations							
Section 36	Purveying milk without						
	licence	...	...	2	2	20/-	
Section 40	Purveying adulterated milk			1	1	2 months	
						hard labour	
Sale of Ice Cream Bylaws							
Section 4	Selling ice cream without						
	licence	...	...	36	36	2792/-	430/-
Nairobi Municipality (General) Bylaws							
Section 15	Using unlicensed premises						
	as restaurant	...	...	3	3	650/-	30/-
Section 27	Using unlicensed premises						
	as tea room	...	...	1	1	20/-	12/-
Section 113	Using unlicensed premises						
	as bakery	...	...	2	1	60/-	10/-
Section 119	Unclean bakery premises			3	3	190/-	10/-
Section 119	Conveying unwrapped bread			1	1	30/-	10/-
Section 151	Exposing uninspected meat						
	for sale	...	...	4	4	630/-	10/-
Section 283	Using unsuitable vehicles						
	for conveyance of meat	...		4	3	220/-	

Section 9.

SEWERAGE AND SEWERAGE DISPOSAL

From the Annual Report of the City Engineer).

General: In 1954 the majority of the sewerage constructed has been in the Industrial Area and the African Housing Area. The Industrial Area Sewerage Scheme under the control of consulting Engineers has been completed, although a small portion is not in use due to delayed delivery of pumping station machinery. In the African Housing Estates the bulk of the £96,000 scheme has been completed but again the delivery of pumps will delay completion well into 1955.

The first phase of the £325,600 extensions to the Sewage Disposal Works was completed early in 1954 and the second phase began in the middle of the year. It is anticipated that this work will go on into late 1956 or early 1957.

As shown by the figures below, 1953 and 1954 have been years of very substantially increased sewer construction and this trend will continue into the first half of 1955. During this two and a half year period the Council have been working through a considerable backlog of previously designed work and available staff have been principally concerned with supervision and inspections. This, coupled with the necessity to examine and reconstruct old sewers laid before the vast expansion of Nairobi was foreseen, will inevitably reduce the volume of new work for the next year or two.

New Construction: A total of 80,376 lin. feet of foul sewers were constructed during the year and this figure includes some sewers constructed by Government and taken over by the City Council.

Construction figures for recent years in linear feet are:—

1951	1952	1953	1954
35,264	36,724	58,888	80,376

The following are the details of the larger schemes:—

Industrial Area sewerage	...	...	...	28,080 lin. ft.
Eastleigh Section VII, Phase 1, sewerage	...			9,348 lin. ft.
Eastleigh Section VII, Phase 11, sewerage	...			7,277 lin. ft.
African Housing Sewerage Scheme	...	...		14,610 lin. ft.
Nairobi South Estate	...	...	...	13,738 lin. ft.
Other smaller works	...	...	...	7,323 lin. ft.
Total				80,376 lin. ft.

Surface water sewers, Grogan Road area	...	6,447 lin. ft.
Foul Sewers existing at the end of 1953	...	75.81 miles
Foul Sewers constructed during 1954	...	15.22 miles
Foul Sewers at the end of 1954	...	91.03 miles

Maintenance: As in previous years the problems of maintenance have been very considerable and increase with the added lengths of sewer. In 1954 it has been possible to increase the amount of preventive maintenance but nevertheless 264 blockages have had to be cleared. The causes of blockages remain the same, accumulations of sand used for scouring utensils, builder's refuse shot into manholes and deliberate blockage.

Section 10

WATER SUPPLY

(From the Annual Report of the City Engineer)

General: With the very poor rainfall for the years 1952 and 1953, the Ruiru Dam was about 16 ft. below the spillway at the commencement of the year and at the end of March 1954, the water level had dropped to 26 ft. below the spillway, with a storage of 177 million gallons only, and restrictions on the use of water had to be imposed on the City. Fortunately the long rains of 1954 were above average and the Ruiru Dam had completely filled and was spilling by the end of May 1954.

From the onset of the rains the position regarding supply in Nairobi has been satisfactory and there is no likelihood of any restrictions being necessary until after the 1955 rains, when the position will depend on whether these rains are a failure or are plentiful.

Existing Sources of Supply:

- (a) Kikuyu Springs: These have continued to give a daily supply of just over one million gallons of water of excellent quality.
- (b) Ruiru Reservoir: As stated above, with the Ruiru Dam falling to the lowest recorded level since it was first put into service, the draw-off had to be restricted to about three million gallons per day. With the filling of the reservoir however in April/May, normal service was resumed and at the close of the year approximately 4.5 million gallons per day were being delivered from Ruiru.
- (c) Nairobi Dam: For the first three months of the year this reservoir was worked to maximum capacity and approximately 200,000 gals./day were delivered to the City from this source. With the good rains, however, and as, due to improvement in the supply from Ruiru, it has been possible to fulfil requirements without recourse to Nairobi Dam since April, the dam has remained well filled and is available for giving supply during the hot wheather of 1955/56.

Purity of Water: The quality of water delivered to the town has been of excellent standard througout the year. Two hundred and four samples were taken and it is pleasing to report that not a single 'unsatisfactory' one was received.

New Works:

- (a) Chania-Sasumua Scheme: Since the work of construction of the Dam was taken over by the Council by direct labour, progress has been greatly improved and it is hoped to impound

water by the 1956 rains. Work on the 16" pipeline from Ruiru to Sasumua has been in abeyance throughout the year due to the emergency and the impossibility of having gangs working in the forest area, but it is hoped to resume work on this line early in 1955. Work on the Chania Diversion and the Filter Plant is progressing satisfactorily.

- (b) New 6,000,000 gallons Reservoirs, Kabete: The structural work on these reservoirs was completed early in the year but it was not possible to put them into service as interconnecting pipework and in particular, specials, were not received during the year and some specials are still awaited from the U. K.
- (c) New Mains and Reticulation Scheme: Owing to new development schemes and especially the construction of new African Locations, reticulation works proceeded at a high rate and new trunk mains, notably the 18" main along Sclaters Road to serve future developments in the Eastleigh area, had to be taken up. Approximately 18 miles of new mains ranging from 18" dia. to 2½" were laid during the year.

Statistics:

	1949	1950	1951	1952	1953	1954
Total deliveries (million gallons)	1105	1314	1555	1676	1809	1747
Average daily deliveries (million gallons)	3.05	3.77	4.25	4.60	4.95	4.80
Population (estimated in thousands)	130	140	149	166	176	179.5
Average daily delivery per head (gallons)	23.5	26.0	28.5	27.6	28.1	26.8

Section 11

AFRICAN HOUSING

(From the Annual Report of the City Engineer)

Housing: During the year the following housing was completed and occupied:—

(a) **Council Built:**

- (i) **Doonholm Triangle:** Three contracts were commenced in 1953 and the buildings had all been occupied by 11th June 1954. The number of persons accommodated during 1954 was 2,364 in 788 rooms. Single storey stone and tile buildings.
- (ii) **Gorofani VI:** This contract was commenced in 1953 and was completed by 26th January 1954. The number of persons accommodated in 1954 was 192 in 64 rooms in double storey, stone and tile buildings.
- (iii) **Doonholm Neighbourhood:** Three contracts were let during the year and work on all three is approximately 60% completed. Only one of the contractors has been able to keep up with his original time schedule. Operation 'Anvil' has had a serious effect on building, both with regard to costs and the supply of labour. 276 persons have been accommodated in 92 rooms during 1954. Accommodation for a further 3,369 persons is now under construction. Single storey stone and tile buildings.

(b) **Employer Built:**

- (i) **East of Shauri Moyo:** 8 employers completed buildings at this site and provided accommodation for 678 persons in permanent single and double storey buildings.
- (ii) **Doonholm Road:** 14 employers completed accommodation during the year for 785 persons in permanent single storey buildings.
- (iii) **Makadara:** 100 plots were set aside for employers to meet the demand. Two firms have commenced work but no persons have been accommodated to date.
- (iv) **Mtoni:** Work commenced during the year on provision of services for a further site. Building has not yet commenced.

(c) **African Built:**

- (i) Bahati: 3 houses only were completed during 1954 and provided accommodation for 45 persons. There is a reluctance for Africans with sufficient resources to build in this area.
- (ii) Shopping Centre, Bahati: 2 shops were completed and accommodation provided for 12 persons.
- (iii) Makadara: 77 mud and wattle houses, 6 stone houses, 12 shops and 2 hotels were completed providing accommodation for 1560 persons.

Summary of Persons Housed in 1954:**A. Council Built:**

Doonholm Triangle	2,364
Gorofani IV	192
Doonholm Neighbourhood	276
	<hr/>
	2,832

B. Employer Built:

East of Shauri Moyo	678
Doonholm Road	785
	<hr/>
	1,463

C. African Built:

Bahati Houses	45
Bahati Shops	12
Makadara	1,560
	<hr/>
	1,617
Total	5,912
	<hr/>

Water Supply:

The following water mains have been completed to serve African areas during the year 1954:—

6,500 lin. ft. 6" & 3" dia.	mains to Council's Housing Estate, Doonholm Road.
1,500 lin. ft. 6" dia.	main to extension of Shauri Moyo.
3,000 lin. ft. 6" dia.	main to Mtoni African Housing.
1,000 lin. ft. 9" & 6" dia.	trunk main to African Housing along Doonholm Road.
500 lin. ft. 6" dia.	cross connection from Doonholm Road to Shauri Moyo to improve pressure in Shauri Moyo and Pumwani.

Section 12.

EUROPEAN CHILD WELFARE

In the lives of the entire European community in Nairobi the year 1954 was a year of difficulties and problems, to be met, contended with and overcome: and this was no less the experience of the European Child Welfare Service, for super-added to the problems presented by the emergency were those produced by an outbreak of poliomyelitis more severe than had previously been experienced in Kenya. The general situation and the epidemic both left their mark on the record of the year's work.

Staff

Dr. Philippa Gaffikin continued as Medical Officer in Charge throughout the year. Thanks to a welcome increase in staff in the Asian Maternity and Child Welfare Department — the provision of a part-time medical officer — it was possible to devote more time to European Child Welfare, and this was largely expended on greater attention to the two Day Nurseries whose wellbeing had formerly been supervised less frequently than was entirely satisfactory.

Mrs. M. Arthur carried out the duties of health visitor during January, until the new permanent health visitor, Mrs. E. M. Sullivan, was free to take up her appointment. Mrs. Sullivan took over on the 1st February and continued throughout the year. It was naturally a number of months before she was able to contact all the families in the Home Visiting Records, as well as keeping up visits to all newborn infants and conducting the four weekly clinic sessions; but by the end of the year she had caught up with all arrears.

Buildings

Parklands Clinic: For the fifth successive year it is necessary to record that there is still no separate clinic for the Parkland area, though the need is clamantly urgent. It is hoped that a new clinic will be completed during 1955.

Woodley Clinic: The clinic rooms in the day nursery building are well appointed and equipped and have continued very satisfactory: but experience during the year has pointed out one snag, that is, the disadvantages in the siting of a clinic within a day nursery. A child attending the nursery developed poliomyelitis, and the nursery was consequently in quarantine. This, of course, had no real bearing on the clinic activities — quarantine applied to the children, not the building — but the plain fact remained that mothers who normally attended the clinic simply would not enter the door. This was unnecessary but one can sympathise with parental fear of the slightest threat of poliomyelitis. It was, of course, very damaging to clinic attendances.

Clinic Activities

The established routine of four sessions per week, two at each clinic, was maintained throughout the year: but as the year progressed experience showed a need for an alteration in clinic hours to provide a more balanced service in the two areas. The clinic hours on Mondays at Woodley were therefore changed to 3.0 — 5.0 p.m., the Tuesday session remaining at 2.0 — 4.0 p.m., while at Parklands the Wednesday session remained at 3.0 — 5.0 p. m. but that of Thursday was put back to 2.0 — 4.0 p.m. This had a stimulating effect on the use of clinic facilities in the Woodley/Ngong Road district, as it became possible for families to attend by car after normal business hours, and did not in any way reduce that at Parklands.

The level of infant attendances was maintained during 1954 almost on a par with 1953, but other attendances declined. This was an indirect consequence of the outbreak of poliomyelitis, which made necessary the complete cessation of all inoculations since it is known that any injection, while the individual is exposed to the polio virus, may predispose to a paralytic attack. The ban on inoculations had a most deleterious effect on the attendance of toddlers. Children who had been regular attenders in infancy dropped out completely once it became known that injections were "off", and even the older infants came less regularly, the mothers taking the line that the child was doing well, the only reason for clinic attendance at that stage being to obtain immunisations, and since these were unobtainable there was no point in coming. This, of course, is a foolish attitude and shows faulty reasoning but was undoubtedly the view held by many. A further factor in reducing attendances was the loss of contact with a number of families due to the lack of a direct take-over from Mrs. Graham to Mrs. Sullivan. A circular letter was prepared and a copy sent to each "lost sheep" but the response was very poor — personal contact is clearly essential.

The health level of infants, and of the toddlers who attended and those in the day nurseries, remained satisfyingly high, and the incidence of disease correspondingly low. Although the epidemic of anterior poliomyelitis, miscalled "infantile paralysis", was both prolonged and severe it was yet another demonstration of the inaccuracy of the latter name — at least among Europeans — for of a total of 97 cases in all races those in European children under 6 years totalled 7. Of other infectious diseases, whooping cough was prevalent and attacks were sometimes prolonged though complications were happily few. An epidemic of chickenpox was widespread affecting toddlers in all areas — and not a few parents — but was of a fairly mild type.

The routine examination of all nursery school children was continued throughout the year, a nursery school "jam session" once a quarter in each area proving more satisfactory than to crowd the regular sessions with 40 or more toddlers at a time.

During March and April a great deal of the Medical Officer's time was devoted to helping the day nursery staffs in preparation for "Operation Anvil". It was anticipated that this security operation, entailing the temporary or permanent removal of large numbers of Africans from the City, would gravely disrupt the working life of Nairobi for a period which might be as long as two weeks, and that the disruption would include the retailing and distribution of fresh food. It was therefore necessary to provide stocks of non-perishable food sufficient for 200 children for a fortnight — quite a problem in organisation, selection and storage.

Home Visiting

Domiciliary visiting, always the keystone of a Child Welfare Service, was of exceptional value throughout this difficult year, when already busy lives were made more complicated in the "pre-Anvil" period by public insecurity and in the "post-Anvil" period by deficiency or inefficiency of domestic staff.

The routine of paying the first visit to mothers in hospital was continued during the year, and once again we express our gratitude for the co-operation afforded by the Matron and Staff of the Princess Elizabeth Hospital. Many mothers had not been aware that a welfare service was available, and were delighted to be able to take advantage of it. Those who were genuinely unable to attend the clinics for advice were informed that the health visitor would visit them at home, at intervals depending on the age and health of the infant. As the home visits averaged 12 per day over the year it was necessary to extend the period between visits to older children and concentrate on the younger group. The general level of health of all the children seen at home during the year was high, and no cases of neglect or malnutrition were observed. Particular attention was paid to children left with ayahs, but all were kept clean and in excellent health.

As the health visitor conducts four afternoon clinic sessions and is wholly occupied with clerical work on the remaining afternoon, home visiting is necessarily limited to mornings and at 12 visits per day her maximum visiting potential has already been reached. On the other hand the rapid growth of Nairobi both in area and in population, and especially in lower-income-group population, means a constant and cumulative increase in homes where a health visitor's services are not only desirable but necessary. Even in this past year, attention to the wellbeing of the pre-school age group was not as thorough as we could have wished. The moment is rapidly approaching when the services of a single health visitor will be wholly inadequate for the city's needs.

Statistical Record

Attendances

	Parklands	Woodley
0 — 1 year	1533	709
1 — 6 years	481	349

New registrations

0 — 1 year	155	58
1 — 6 years	97	45

Immunisations

Vaccination	...	...	...	...	...	199	92
Diphtheria/whooping cough	...	...	...	...	...	113	106
Diphtheria	...	...	...	...	...	60	62
Whooping cough	...	...	...	...	...	9	—
T.A.B.	...	...	...	...	...	61	13

Home Visits

Hospital	First visit — Home	Revisit — home
545	258	2710

Comparative figures, 5 year period

	1950	1951	1952	1953	1954
Attendance for advice, etc., ...	1182	2311	3947	3848	3072
Vaccinations ...	102	117	257	307	291
Diphtheria antigen ...	113	256	405	487	122
Whooping cough antigen ...	97	234	339	523	9
Diphtheria/whooping cough antigen	—	—	—	—	219

Section 13

DAY NURSERIES**Parklands Day Nursery**

This nursery continues to be overcrowded and cramped for the number of children who attend (attendance figures increased over those for 1953) and conditions are consequently difficult for the staff. They have, however, as always, worked extremely hard and willingly throughout the year and have never failed to give of their best in the interests of the children.

Plans are in preparation for increasing the size of the nursery and for building a new clinic and matron's house. When the buildings are completed, probably in 1955 or early 1956, conditions should be very satisfactory, to the benefit of all.

The health of the children attending the nursery was very good, only two cases of measles, one case of chickenpox and nine cases of whooping cough being the total of infectious diseases throughout the year.

The Annual Sports Day was held in June and was well attended by children, parents, and "old" girls and boys. The children all entered into the spirit of the occasion and thoroughly enjoyed themselves. Competition was very keen in spite of the tender ages of the competitors.

The Christmas Pantomime and Party was held early in December. "The First Christmas" was produced by Mrs. Dickson and was very well portrayed. "The Three Bears" and Nursery Rhymes was adapted and produced by Mrs. Ross Whyte. Madame Zerkovitz's pupils gave a garden scene which was colourful and graceful. The scenery was painted by Messrs. Thomas and Mould and received well deserved applause. Parents, friends and children were entertained to tea, after which Father Christmas was seen climbing from the chimney complete with sack of toys.

The organisation of the sports day, the high standard of the Christmas pantomime and the exhibition of the handiwork of the kindergarten class are ample evidence of the interest and hard work of the staff and the progress which the children make at the nursery.

Woodley Day Nursery.

The nursery is now becoming well established and is building up an excellent reputation. At the end of the year the complement of children was complete. As is usual there are always a few of the younger children absent with minor ailments but the nursery was able to have as many as 130 children on the register, with about 110 attending daily. In both

January and June a case of poliomyelitis occurred, and many of the children were kept at home for the quarantine period, bringing the level of attendances down considerably.

There have been cases of whooping cough and chickenpox, but not to the extent to which they occurred during the first year of the nursery's existence.

There were quite a number of changes in the staff throughout the year — mainly due to husbands being transferred. Such changes always result in some upset and in additional work for the remaining staff; despite this, however, there has always been a happy atmosphere at the nursery and the whole staff has worked with interest and with the utmost willingness throughout the year.

One of the large rooms has been greatly improved by the addition of dividing doors, and the children can now be put into smaller groups for occupation, which has helped to keep them more happy. For a long time there was no teacher, which made things difficult, for older children in particular become bored when they have no mental stimulation. However, this was remedied in the latter part of the year, and the older children were able to have some pre-school instruction, which is so badly required.

High Ridge Day Nursery

The opening ceremony of this nursery for Asian children was performed by His Worship the Mayor, Alderman H. Travis, on February 19th.

The nursery was designed to hold 40 children of the two years to seven years age group and was erected after strong representation from the Asian community and assurances that the nursery would be well supported.

As with Council's other nurseries, the intentions were that the nursery should be principally for the use of working mothers who wish their children to be well cared for; and that the nursery should be financially self supporting. It would appear that many people consider the fees to be excessive. Reduction of the fees would mean that the nursery would either have to become a financial burden on Council or that the standard of care and feeding would have to be reduced, a measure which cannot be contemplated.

The nursery was opened for children on February 15th. Two children were registered on the opening day but by the end of the month there were eleven children attending and thirtythree at the end of the year. Considerable progress has thus been made and it is hoped that it will continue.

The majority of parents have expressed satisfaction about the attention which their children have received. Most parents, however, have criticised the lack of teaching and have urged very strongly that more teaching should be done. Indeed, the majority of withdrawals have been on this score. It is difficult to explain that High Ridge is a day nursery and not a nursery school and that, consequently, no teaching at all should be done. Parents of children in the European nurseries express the same opinion about teaching in the nurseries, particularly of course, as their children get nearer the school starting age. It is, perhaps, a pity that a greater degree of freedom about teaching is not permitted.

The feeding of the children, quite understandably, presented some difficulty for a time. Every effort was made to observe the various religious requirements of the children — no easy task; and the majority of parents were satisfied with the quantity, quality, and type of food supplied.

The health of the children has been very good throughout the year. One child was suspected, in March, of having typhoid fever but this subsequently was diagnosed as a non infectious disease and one which had no relationship with the child's attendance at the nursery. There were four cases of measles in November. Apart from these cases there has been no illness of any seriousness. The Medical Officer, Dr. Gaffikin, carried out regular medical examinations of the children and reports elsewhere that many children improved markedly in both physical and mental well-being during the year.

The staff, with Mrs. Hobden as matron, has had only one change during the year; Mrs. Sandhu, the original assistant matron, returned to the Asian Maternity and Child Welfare department and Mrs. Johannes was appointed to the vacancy. Mrs. Puri and Mrs. Fernandes have worked efficiently and enthusiastically throughout the year and have done well to overcome the inevitable "teething" troubles which faced them.

DAY NURSERY ATTENDANCES

	Parklands		Woodley		High Ridge
	1953	1954	1953	1954	1954
Regular: full day	12990	15296	18001	22251	4386
Regular: mornings	5309	6722	3393	2211	1438
Casuals: full day	947	576	813	596	—
Casuals: half day	728	653	572	87	—
	<hr/>		<hr/>		<hr/>
Totals	19974	23247	22779	25145	5824

Section 14

ASIAN MATERNITY AND CHILD WELFARE

The year which has just ended is the second full year of Emergency, and conditions during 1954 may be summed up in a variant of the standard phrase about an invalid—not “as well as can be expected” but “not so bad as might have been expected”. It certainly began rather badly. Looking back after “Operation Anvil” on the previous three months, the writer calculated that she had personal cognisance — had heard, or seen, or assisted victims — of an average of one “incident” every six days. Taking that as random sampling, it implies that the general security of the city was considerably disturbed. After “Anvil” the state of public order became steadily better until the end of the year, when there was an outbreak of arson which affected the Indian community to a limited extent although the terrorist attacks were primarily directed against Europeans.

Staff

The establishment of medical officers was increased in 1954 by one part-time doctor. Dr. Philippa Gaffikin continued as the full-time medical officer in charge, and the part-time post was ably filled by Dr. Ann Linsell. The increase of medical staff had a very beneficial effect on the running of the department's services. It became possible so to rearrange the clinic sessions that antenatal and child welfare no longer overlapped, and to eliminate two-session mornings, each requiring the doctor's attendance with consequent time-wasting transits. Still more valuable was the added time available for teaching, enabling classes and demonstrations to be arranged in advance and carried out as planned, instead of lectures being fitted into odd gaps in an overfull programme.

Miss Priscilla Benjamin, who had tendered her resignation in November 1953, remained on duty until mid-February when she finally departed to India. She went with the deep regret and the very good wishes of all in the department, after 17 years of magnificent service to Kenya.

Mrs. Margaret Arthur was appointed Supervisor from 1st February. She brought into the post a new mind, a new outlook, and the fruits of her very wide experience, and her coming had the stimulating effect of a blood transfusion.

Of the eight established health visitor posts, only five were constantly filled throughout the year, by Mrs. Chaddah, Mrs. Pachecos, Mrs. Nayer, Miss Habib and Miss Gabri. Miss E. de Mello was in England until September, completing her Red Cross Scholarship course in Nursing Administration and Public Health.

Buildings

Ngara Clinic. The long-planned rebuilding of this clinic at last became a reality, and with additions and internal reconstruction the old building was incorporated into a clinic slightly more than twice its former size; the building is a harmonious whole and the internal layout is satisfactory. The "new Ngara" was formally opened in August by the Deputy Mayor, Alderman I. Somen, M.B.E.

Eastleigh and Victoria Street Clinics. These two buildings were erected to the department's own basic clinic design and have continued very satisfactory.

Sandiford Road. A number of internal alterations, designed to improve the running of antenatal sessions, were most promptly and helpfully carried out by East African Railways and Harbours to whom the building belongs. These changes have proved a satisfactory answer to the problems they were designed to solve: but a much greater problem exists and is not within sight of solution, namely the provision of proper sanitation. Sanitary provision for patients and staff, as indeed for the whole Sandiford area, is by bucket latrines, and the great reduction in cleansing services occasioned by the Emergency has made these even more unhygienic than they were in former years.

Forthall Road. The work of this clinic area continued to be carried on from the Ngara building: but a friendly discussion with E.A.R. & H. regarding the provision of clinic services in the area resulted in a satisfactory and sensible compromise — a building in the north-west corner of the old Racecourse, to be provided jointly by the City Council and E.A.R. & H., and to serve both the Railway housing areas and the new residential area scheduled to develop on the Racecourse site. It is greatly hoped that it may be possible at least to commence building during 1955.

Nairobi South. This area is being developed with great rapidity. A considerable part of the new residential district is to be used for Railway Asian Housing, and E.A.R. & H. with their usual foresight included clinic services in their plans. The Medical Officer carried out a survey of the area before conferring with E.A.R. & H. on the siting of clinics. Suitable plots were agreed and the main clinic provisionally scheduled for 1956.

Parklands. The provision of a clinic in this area was a matter of increasing concern throughout the year. Originally a European district, and later housing mainly well-to-do Indian families, the need for a clinic was never urgent and those families who used clinic services attended Ngara: but the increasing pressure on accommodation has transformed most of the one-family homes into multi-family homes, and with a lowered standard of amenity goes an increased need for healthy living and for

a clinic to aid in maintaining health standards. The area being already heavily built up, there is difficulty in securing a site, but the matter was vigorously pursued during 1954 and is high on the list of priorities for 1955.

Training.

Training of Health Visitors: The Health Visitors' Training Course continued throughout 1954, the year being divided into three terms with lecture programmes as under:

- | | |
|-----------------|---|
| January Term. | Anatomy and Physiology, Midwifery, Dietetics, Hygiene and Sanitation (water and sewage). |
| May Term. | Anatomy and Physiology, Antenatal Supervision, Midwifery, Child Welfare, Insect-borne Disease, Hygiene and Sanitation (clean food meat and milk). |
| September Term. | Midwifery and Practical Midwifery (with a period of residence at the African Maternity Hospital, Pumwani). Child Psychology, Communicable Disease. Public Health Administration and Sanitary Law, Immunisation and Preventable Disease. |

Throughout the year practical instruction was given by the medical officers and supervisor in the conduct of clinic sessions, home visiting, class-taking, and the preparation and giving of health talks. During the May term practical demonstrations in animal anatomy were given by the Medical Officer in Charge, in addition to weekly lectures on human anatomy of all the bodily systems. This was given at the King George VI Hospital by Dr. Rogoff, to whom the department's very grateful thanks are tendered, and was of immense value in enabling the students to link their theoretical knowledge to visible and tangible fact. The students also attended the Midwives' Refresher Course in November, and a course of lecture-demonstrations in antenatal and postnatal exercises given by Mrs. Duncan for the department's staff. Terminal examinations were held in April, August and December on the subjects studied during the preceding term.

Once again, most sincere thanks are offered to all those members of other departments who have given their time to preparing and delivering lectures, to Dr. Watts and Miss Foord for enabling the students to obtain experience in practical midwifery, to Mrs. Duncan, and to Mrs. Glennie of St. Nicholas School who took endless trouble to make sure that the students understood the psychological origins of child behaviour.

Midwives. The annual refresher course for midwives was held from 1st to 16th November, and consisted, as before, of lectures and demonstrations on midwifery and cognate subjects and visits to places

of professional and general interest. The course was opened by the Deputy Mayor, Alderman I. Somen, M.B.E. in a most interesting and helpful speech; and closed with the traditional party at which the D.D.M.S., Dr. Trim, presented Certificates of Attendance.

Throughout the year the Supervisor held monthly midwives' meetings, in order to promote closer contact with and between midwives and to enable them to bring up for discussion queries and problems arising in the course of practice: a consistently high level of attendance indicated that these meetings filled a need and were appreciated.

Dais. No formal dais' course was necessary during 1954, as all practising Nairobi dais had already received training; but a weekly dais meeting was held throughout the year for birth notification, reporting of difficult cases, and discussion of professional problems. It was always well attended, the dais evidently appreciating the interest taken in their work and their difficulties. Simple lectures, demonstrations, and films on health and hygiene were provided at intervals.

Clinic Activities.

Antenatal Welfare: Five antenatal sessions were held weekly throughout the year, one each at Ngara, Eastleigh, Victoria Street, Sandiford Road, and one for the Forthall Road area conducted in Ngara clinic. A medical officer attended every session. During the ten weeks when Ngara was closed for rebuilding, the sessions for that area and for Forthall Road were held in Victoria Street, and these "substitute sessions" were fairly well patronised though not on the scale of normal clinics. Attendances were good in the first three months of the year, fell sharply in April and May (attributable to the loss of domestic servants in "Operation Anvil") then rose again and maintained a steady average for the rest of the year. The total attendance, 5453, shows an increase over 1953 of 419.

The general level of maternal health was fairly good, but there was a sharp rise in the maternal death rate. Maternal deaths numbered 8, the causes being

Toxaemia	2	Obstructed breech	1
Heart failure	2	Obstetric shock	1
Postpartum haemorrhage	1	Paralytic leus	1

All these deaths were carefully investigated, and it was concluded that three of the eight might have been prevented, those due to toxaemia and to obstetric shock: but that of the three women, two were under medical care but had declined to follow the advice given and the third had neither attended a clinic nor consulted a doctor, midwife or dai.

The incidence of pre-eclamptic toxæmia showed a small rise, from 37 cases to 41; and that of anaemia a slight fall, 1103 cases giving a rate of 79.5% of the new antenatal registrations.

There was a further fall in the stillbirth rate, the total of 79 stillbirths giving a rate of 16.6 per thousand live births — a welcome and encouraging sign of progress in maternal care and wellbeing.

Child Welfare. Five children's sessions were held weekly, one for each area, with a medical officer present at each session. Attendances were good throughout the year with the exception of the immediate post-Anvil period, but the aggregate was a little lowered, in comparison with the previous year, by the closure of Ngara. This building, which serves two areas, was out of commission for $10\frac{1}{2}$ weeks, a fifth of the year; and though "substitute sessions" were available at Victoria Street they were scantily attended — understandably, for to bring an entire family of tiny children right across the town, by bus or on foot, is in the nature of a major safari.

The child health level during 1954 was remarkably good, and this together with a further fall in the infant mortality rate has been a great encouragement to the Asian Maternity and Child Welfare Department staff. The epidemic of poliomyelitis in the first half of the year showed a very small case incidence among Asian children, with only one death. Whooping cough was prevalent but mild, chickenpox likewise, measles scanty. At the end of the year when the short rains slackened there was a brisk rise in cases of gastroenteritis in the Eastleigh area, related to an increase of flybreeding in piles of garbage, and the year's total of infant deaths from this cause was double that of 1953.

As a means of giving recognition and encouragement to regular attendance, children's parties were held in the first week of January. Mothers and children who had attended a certain minimum number of sessions during the preceding year were invited by name and entertained to a film show and refreshments. All funds and supplies were provided by voluntary efforts, by donations or the proceeds of raffles, and so generous was the support that in addition to the tea and entertainment it was possible to provide every child with a small gift and there were prizes for the best aggregate attendances.

During the year the Medical Officer in Charge carried out regular medical examinations of the toddlers attending High Ridge Day Nursery—examinations which demonstrated afresh the great value of a day nursery, for children recorded as "thin", "of poor physique" or "lacks discipline" were seen a few months later to be vastly improved in health and bodily wellbeing, and to be pleasant-mannered and happy in their relations with adults and with other children.

Home Visiting. An improved method of recording home visits, introduced by the supervisor, provided an "at-a-glance" picture of the visiting state in each district — and the picture thus revealed was not agreeable. It was apparent that despite incessant efforts by the health visitors no area was ever fully covered, the ratio between staff and population being such that there simply were not enough days in the year to visit every household even once. Even primary visits — those to new infants — fell short of the ideal in that they were often delayed till the child was a month old or more, instead of being paid during the first ten days. The situation was directly due to a simple fact, that the Asian population of Nairobi has increased relatively faster than the staff, and the deficit is and continues to be cumulative. The home visiting situation in Parklands gave greatest cause for alarm, closely followed by that in Eastleigh, and an increase of staff is clearly needed to overtake the backlog in these areas and also to provide a leave relief and so obviate the disruption of all areas which now occurs when even one health visitor is absent.

Home visits during the year totalled 17,107, a noteworthy increase creditable since the department's staff was at full strength for just one month out of the twelve. The visits were the more valuable in a year when mothers were more homebound due to lack of domestic staff, and for this very reason time, formerly allotted to clinic classes, was transferred to extra visiting. Much credit for the satisfactory level of maternal and child health must be given to this extra effort on the part of the health visitors, who were determined that if the people could not get them they would go to the people.

Immunisations. Vaccination against smallpox and inoculation with T.A.B. continued to be freely sought during 1954 as in previous years — the former since international regulations make it imperative for travelling, and the latter in relation to sporadic outbreaks of typhoid which emphasised the need for protection. There was a very marked decline in diphtheria and diphtheria/pertussus immunisations, due to the erroneous but now, alas, widely held belief that these injections cause poliomyelitis. In the immediate presence of an outbreak of the disease all injections were of course withheld, since there is good evidence that the injection is liable to sensitise the muscle concerned to the unwelcome attentions of the polio virus: but long after the outbreak had ceased, though T.A.B. inoculation was accepted and even requested, it was nearly impossible to persuade mothers that their children should, and safely could, be protected against diphtheria and whooping cough.

Health Education. Antenatal and postnatal exercise classes were held weekly at all clinics, and were well patronised. It is evident that the exercises are of real value in promoting easy labour and a rapid return to full health, for the mothers themselves ask for instruction either from the clinic or their midwife, and attend the classes in successive pregnancies.

It was significant that a unanimous request from the midwives, as an item for inclusion in the refresher course, was for a repeat lecture-demonstration from Mrs. Duncan.

Layette classes were poorly attended, and were discontinued in favour of more intensive and extensive home visiting.

An innovation which proved very popular and successful was the provision of a visual health demonstration, set out with the aid of posters, diagrams and models in the main hall of each clinic. The essentials of a balanced diet, an inexpensive but adequate layette, or how to prepare a room for a home confinement, were thus simply and forcefully demonstrated to a multilingual and semi-illiterate public. In greater detail to more specialised groups such as midwives or dais, similar lessons were driven home by full-scale layouts.

Medical films were shown during the year for the students, for the midwives both during the refresher course and at the monthly meetings, and for the dais: and children's films at all five parties. The films were selected, obtained and shown by Mr. Beechey, and the entire department is unanimous in paying tribute to his kindness, helpfulness and efficiency, in this as in everything else.

Co-operation with Other Health Services.

Private Practitioners. It is pleasant to record the continued happy relation between this department and the private practitioners of Nairobi. A total of 187 patients were referred for examination and opinion during the year.

Indian Maternity Hospital. This valuable and old-established institution has fallen on evil times, and despite prolonged endeavour by its Management Committee it has not yet been rescued from distress. Dr. Gaffikin served throughout the year on its Committee, and also on a fact-finding subcommittee which met frequently during July and August and presented its report early in September. An outbreak of puerperal infection led to the hospital being closed for 10 days in the latter part of September, and this incident brought before the public eye the unsatisfactory state of the hospital's affairs. Since then much effort has been directed to securing a measure of financial aid and stability from lack of which all other difficulties directly or indirectly arose — but so far with no clear prospect of success. Meanwhile the hospital continues to train Asian midwives — greatly aided therein by systematic lectures on midwifery by Dr. Linsell — under conditions which cannot conduce either to satisfactory teaching or easy learning.

Midwives. Closer and more constant contact with Asian midwives was achieved in 1954 than ever before, and the concomitant increase in supervision resulted in a higher standard of record-keeping and notification. It is believed that all practising midwives have now been induced to notify births, though about a third of them do so only under duress and after constant insistence. The number of midwives attending antenatal clinics with their patients increased during the year, and there was a better leave of general co-operation — though with some conspicuous and deplorable exceptions.

Registration of practising midwives under the Kenya Nurses and Midwives Council was completed during the first of the year. The Council also exercised its function as the supervisory authority in matters of training by setting a syllabus, requiring a certain level of staffing, beds and facilities before granting recognition to a teaching institution, and conducting examination. The standards thus established were apparently as yet only a compromise between the ideal and “the best we can get, at least better than nothing” — a realistic attitude, but one could wish for greater firmness, for compromise is never perfection.

The Disciplinary Committee of the Council took action during the year in cases concerning one midwife and one dai. The midwife was unwise enough to flout the authority of the Council by failing on two occasions to appear when summoned, and suffered the well-merited removal of her name from the Roll a salutary warning to other possible transgressors.

The three private Asian maternity homes were inspected regularly through the year by the Deputy Medical Officer of Health, the Medical Officer in Charge and the Supervisor. Recommendations for alteration or improvement, and reminders regarding the expected standard of care and cleanliness, were issued at intervals to all three and were complied with in reasonable time.

Dais. As with the midwives, increased supervision of the dais led to a marked improvement in co-operation, and notification of births became regular and accurate although still dilatory. A particular target during the year was an improvement in the dais' personal and domestic hygiene, and advice and suggestions were usually well followed.

Conclusions.

As has already been said, the general state of Asian maternal and child welfare was “not as bad as might have been expected”, and there were some notably cheering aspects — in particular the fall in the infant mortality rate, that sensitive barometer of a community's health, and in the stillbirth rate. Over against this, there were certain disturbing

pointers, particularly an increasing state of sub-health in flat dwellers. Throughout Nairobi the changeover from bungalows to flats is snowballing, a necessary change in the building pattern of a big city where bungalows are too wasteful of land: but the proper corollary of a high population density is not keeping pace — the provision of playgrounds, parks and open spaces, a city's lungs. This is a matter for attention both of the city planners and of benevolent citizens.

Of especial urgency is a playground in the Grogan Road area, for children living in the high apartment blocks above shops in River, Canal and Grogan Roads and the adjacent streets are now grouping up pale and peaky, like a plant in a cellar, from lack of air and light.

One side-effect of "Operation Anvil", arising through loss of a large part of the Cleansing Department's African staff, presented both an immediate source of offence and a potential future menace to health. The sanitation of the Eastleigh area is mainly of the bucket type, and with a reduced staff the Cleansing Department was no longer able to empty bucket latrines oftener than twice a week. In the dry season the constant north-east wind blowing cross Eastleigh carried with it a vile aroma: in a word, Eastleigh stank! But this was no more than offensive, and even the offence is susceptible of cure by the simple introduction of finely powered chloride of lime. A more serious matter was a sharp increase of flybreeding in piles of garbage, for the equation flies and uncleared latrine buckets = epidemic dysentery, which threatens the health of every citizen. The remedy lies in the hands of individual householders, and it is imperative to stimulate the habit of area hygiene.

To conclude, the health level of Asian mothers and children in Nairobi remained high, despite a decline in the city's amenities brought about by the inevitable difficulties of the third Emergency year: but there were grounds for suspicion that this high level was the brink of a downward slope whereon descent, once started, might be very rapid. It would be far beyond the powers of a Welfare Service to arrest such an avalanche, it would be effectively stemmed only by the sum of individual efforts. It is for the individual, as citizen, homemaker and parent, to see that each home is a haven of health set in clean surroundings and sheltering a well-fed, well-clothed family fully protected against preventable disease. In this task the Asian Maternity and Child Welfare Department plays its part by advice, example, supervision, the provision of facilities for preventive immunisation, and above all by teaching and demonstration, by constant urging and reiteration — in a word, by Public Health Education.

TABLE
STATISTICAL RECORD

	Ngara	Eastleigh	Sandiford Road	Victoria Street	Forthall Road	Total
Antenatal Welfare						
Clinics held	52	52	48	52	48	—
Attendances	1,223	1,582	574	1,270	794	5,453
New Registrations	396	468	93	292	267	1,518
Child Welfare						
Clinics held	52	52	48	52	51	—
Attendances	2,794	3,086	1,863	3,139	1,804	12,686
New Registrations						
0 — 1 yr.	358	350	97	342	270	1,417
1 — 5 yrs.	213	381	53	303	197	1,152
Home Visits						
Supervisor	—	—	—	—	—	180
Health Visitors	2,264	4,291	2,385	4,344	2,545	15,829
Students	275	—	211	391	221	1,098
Immunisations						
Vaccination	393	617	171	450	309	1,940
Diphtheria	10	12	41	4	1	68
Whoopingcough	—	—	2	—	—	2
Diphtheria/ Whoopingcough	84	138	6	93	170	491
T.A.B.	183	808	512	367	193	2,063
				1953	1954	
Total attendances, all ages, all clinics ...	...	...	...	25,448	22,703	

Comparative figures 5 year period

	1950	1951	1952	1953	1954
Antenatal Welfare					
Attendances	5,126	4,817	5,285	5,034	5,453
New Registrations	1,490	1,444	1,803	1,481	1,518
<hr/>					
Child Welfare					
Attendances	9,455	11,844	12,513	14,403	12,686
New Registrations					
0 — 1 yr.	1,083	1,292	1,595	1,499	1,417
1 — 5 yrs.	896	1,151	1,486	1,467	1,152
<hr/>					
Home Visits	9,037	11,780	11,815	12,966	17,107
<hr/>					
Notification of Births					
Indian Maternity Hospital		...	...	...	430
Midwives and dais ...	...	...	...	...	4,382
Not notified	...	...	...	...	11
					<hr/>
					4,823
					Less still births ...
					79
					<hr/>
					Live births ...
					4,744
Infant mortality rate, (per thousand live births) 50.8					
Deaths under one year of age (including stillbirths) ...					
					241

Causes of Stillbirth

Prematurity	...	...	...	...	...
Placental abnormality	...	...	...	...	...
Asphyxia	...	...	...	...	...
Accidental haemorrhage			...	...	...
Malposition	...	...	...	...	...
Obstructed labour		...	...	...	...
Macerated foetus		...	...	...	...
Toxaemia	...	...	...	...	...
Maldevelopment		...	...	...	...
Maternal cause	...	...	...	...	...
Cause not known		...	...	...	...

Causes of Death — Asian Children under 5 years

						Under 1 year	1—5 years
Anaemia	...	...	...	...	...	1	1
Accident	...	...	...	...	...	1	2
Asphyxia	...	...	...	...	...	6	—
Atelectasis	...	...	...	...	...	2	—
Bronchitis	...	...	...	...	...	1	—
Burns ... ...	...	...	...	...	...	1	1
Cancer of lung	...	...	...	...	...	—	1
Cirrhosis of liver	...	...	...	...	...	2	1
Cerebral malaria	...	...	...	...	...	—	1
Cachexia ...	...	...	...	...	...	1	—
Cerebral Diplegia	...	...	...	...	...	—	1
Gastroenteritis	...	...	...	...	...	24	4
						<hr/> 14	<hr/> 7

						Under 1 year	1—5 years
Cachexia	...	...	...	...	...	1	—
Cerebral diplegia		...	...	...	...	—	1
Chronic nephritis		...	...	...	...	—	2
Congenital syphilis	...	...	...	...	...	1	—
Congenital malformation		...	...	...	...	6	1
Drowning	...	...	...	...	...	—	1
Empyema	...	...	...	...	...	—	1
Foreign body	...	...	...	...	...	—	1
Gastroenteritis	...	...	...	...	...	24	4
General debility	...	...	...	...	...	1	—
Heart Failure	...	...	...	...	...	9	1
Hyperpyrexia	...	...	...	...	...	1	1
Haemophilia	...	...	...	...	...	1	—
Icterus neonatorum	...	...	...	...	...	3	—
Injuries at birth	...	...	...	...	...	2	—
Intracranial haemorrhage		...	...	...	...	3	—
Intestinal obstruction		...	...	...	...	1	—
Meningitis	...	...	...	...	...	1	2
Malpresentation	...	...	...	...	...	1	—
Maternal diabetes	...	...	...	...	...	1	—
Malaria	...	...	...	...	...	1	—
Marasmus	...	...	...	...	...	6	—
Oil poisoning	...	...	...	...	...	—	1
Pneumonia	...	...	...	...	...	27	16
Prematurity	...	...	...	...	...	55	—
Poliomyelitis	...	...	...	...	...	—	1
Scleroderma	...	...	...	...	...	1	—
Spina bifida	...	...	...	...	...	1	—
Cause not known	...	...	...	...	...	1	—
						<hr/>	<hr/>
						162	40

Section 15

AFRICAN MATERNITY AND CHILD WELFARE
Staff

European. Dr. J. A. T. Henry was Medical Officer in Charge throughout the year and Dr. M. Brown was assistant medical officer until November 17th, when she went off sick. We are very grateful for the excellent work she gave to this department and are sorry that owing to her illness she decided to resign.

Dr. A. L. Linsell attended in the afternoons from November 20th to December 31st to help with the ante-natal clinics, but with the assistance of only a part-time medical officer a lot of work was not done during the last six weeks of the year and it is hoped that the emoluments of the appointment will be improved sufficiently to attract a suitable applicant for the post of assistant medical officer. There has never been a time in the African clinics when European staff of suitable personality, experience and qualifications was needed as much as now.

Mrs. Dugmore returned to duty from overseas leave on January 30th. She was ill during August and September and at the end of December broke her arm. We hope that 1955 will be a better year for her and for us as her vision and ability are needed more than ever at this time when the work in the department has undergone a severe set-back due to the emergency.

Mrs. Brooks acted as supervisor most efficiently during Mrs. Dugmore's absences.

African: The population of "other tribes" in Nairobi has increased greatly and there is more need than ever to have Luo speaking members of staff in all clinics, except Bahati V. The standard of available Kikuyu is higher than Jaluo but the balance of tribes on the staff must be maintained and the general standard of all applicants is disappointingly low. Because so much training of staff is needed in addition to the teaching of mothers, the health visitors have been increased and have had a busy year.

We have a long way to travel before the policy of one health visitor to supervise two clinics in charge of African assistants can be reinstated and this lowering in the quality of staff is one of the worst factors in this work resulting from the emergency.

A second clinic assistant attended the Ear, Nose and throat Clinic at King George VI Hospital and was instructed in the examination of ears and treatment of otorrhoea and was able to perform the daily treatment at Kaloleni when the previously trained senior was sick. The

response to this local treatment of chronic ear infections has been so good compared with the children having to be taken to King George VI Hospital daily that one realizes how helpful dispensaries in the African housing estates could be to the local population.

Review of Activities

General. The total number of examinations done by the medical officer was 18,390, which included 931 Nursery School children (Railway and City) and 133 routine quarterly F.F.I. examinations for clinic and nursery school staffs.

It has been a very difficult year in Nairobi due to the emergency and the almost continual tension and anxiety amongst Africans of all tribes.

The continued distribution of population by tribes following the upheavals of "Anvil" caused a vast amount of clerical work for clinic recording and even up to the end of the year large groups of population were being moved from "A to B", e.g. the segregation of the Akikuyu in the Railway estates.

Home visiting and teaching in the homes was resumed at the end of October and the first few weeks were spent in collecting material for house registers and seeing if the women wanted to welcome us to their homes again.

Old Kariokor and Pumwani were considered to be unsafe but of all the other areas in which the staffs of eight clinics visited only a few tenants resented our approach and many of our permanent clinic members offered a warm welcome.

Pumwani clinic remained closed throughout the year and will do so until much of the condemned housing is rebuilt. The women and children from Bondeni and Gorofani attended at Kariokor clinic.

Posts and Telegraphs clinic started to operate all day from January 4th and by the end of the year was serving a big district in P. and T. Housing, High Commission, District Commissioner and Mbotela Estate, which includes the City Estate and the employers housing.

Bahati (P.W.D.) was redecorated in January and reopened on January 18th.

Bahati V has had a very unsettled year due to repeated screenings and transferring of population to and from Reserve and detention camps.

Maisha clinic was reopened at the beginning of April, which relieved the congestion in Makongeni, but in July the women and children living

in the cottages were transferred back to Makongeni from Kaloleni, so Makongeni was again working to capacity.

A third clinic is needed in the Makongeni Estate to serve their new flats and additional housing which is nearing completion.

There is a great need for the clinic to be built in the Mbotela Estate to serve that area and take casuals from Ofafa Estate, until the latter has its own clinic, which we hope will be early in 1956.

The over-riding fear for these extensions is that we shall not be able to obtain the services of sufficient doctors and health visitors to give the leadership which work of this kind needs so badly today.

Christmas parties were held in each clinic and were well attended and enjoyed.

Anti-Natal Clinics. The total number of new cases was 1,845 and the total attendances 4,936, that is, 206 and 489 more than in 1953. There were only 208 post natal examinations, that is 95 less than in 1953. Much teaching is required to emphasize the importance of this examination in maintaining the health of the women and it is hoped that when the District Midwifery Service is built up again that the number of post natal examinations will increase.

Child Welfare Clinics. Infant Welfare new cases were 1,716 an increase of 173 over 1953; pre-school new cases were 2,318 an increase of 1,059 over 1953; total attendances were 19,722 an increase of 6,096 over 1953.

The small number of transfers from Infant Welfare to pre-school (249) is due to the numbers of children on "casual" cards, as before visiting was recommenced, their housing could not be checked.

More teaching is required in the mental as well as physical care of the toddler. Unfortunately there is no preparation made in the child's mind for the arrival of a new baby until it is announced by finding his previous position of being always on mother's back or knee or in her arms has been usurped by the newcomer.

The care of children in Nairobi is obviously one of the City's greatest problems:—

1. The pre-adolescent for whom there are not enough schools and who spend their days in gangs hunting for amusement, which usually takes the form of destruction. There appears to be no disciplinary element in their lives at all.



Photo by COURTESY E A R & H
THE MIDWIFE HAS JUST ATTENDED AT A
DELIVERY AND GIVES THE NEWS TO THE
GRAND MOTHER WHO HAS BEEN WAITING
OUTSIDE THE HOUSE.



Photo by: COUTESY E A R. & H.

HOME VISITING IS ONE OF THE MOST IMPORTANT
BRANCHES OF THE WORK DONE FROM THE CLINIC

2. The toddler who needs food, care and training and who in many cases is left in the care of an "ayah" of less than 10 years of age, while mother works.
3. The infant, who is ill clad, and wrongly or inadequately fed and while mother works is left to the care of a child of a few years or locked in the house.

Some very constructive schemes must be started to care for these children while the problem is of manageable size (approximate number of non-domestic women working in Nairobi at the end of December was 2,000) and not left to be initiated when the problem is so great that pilot schemes are out of the question. African Welfare Officers, Village Committees and Women's Associations should be invited to give this problem immediate attention.

The closing of the City Dairies in the locations is still deplored as much of the milk sold in the estates is unsatisfactory in quality.

Attendances at clinic milk bars was 24,276 but it must be realized that here the amount available is only to teach children to take it at the weaning period and to a few cases of tuberculosis, whose convalescence is under supervision.

355 lbs of "Incumbe" was sold in the clinics at cost price and although its vegetable protein content is not so good as cow's milk it does help in many cases of malnutrition due to illness or dietary faults.

Dispensary Services. The total attendances were 84,631, an increase of 33,325 compared with 1953.

A general benefit will be felt among the Africans when a full dispensary service is available in the estates and perhaps eventually a small hospital could be instituted where children could be given treatment such as saline drips and returned home at night. It is felt that at least some of the cases who die from gastro-enteritis would be saved by this.

Home Visits. Permission to resume home visiting was granted at the end of October and a total of 2,638 were made between then and December 31st.

This figure does not include the visiting to blocks of housing undertaken to make up house registers and obtain a picture of the tenants and the condition of housing and sanitation.

Many of the African members of staff had never visited and had to be trained in the correct approach to this very important aspect of the work and to be trained for the teaching of the mothers in their homes.

Sanitation and Housing. A special effort was made to design a satisfactory type of bucket latrine for adults and children and these are being tried in the Ofafa Estate.

This department is convinced that the problems of the care of the estates and the correct use of the sanitation provided would be helped by developing the following lines:—

1. Much more teaching on these subjects to be done in schools from nursery school stage up to the oldest children.
2. Welfare workers in all departments e.g. Public Health Department and African Affairs Department to spend much more time on these subjects.
3. Public opinion to be developed in adults through clubs and lectures. An example of what public opinion can achieve is seen in the Bondeni Estate, where the tenants have taken the control into their own hands. It is interesting to compare the report on Bondeni for the month of December — “Interior and exterior of houses really beautifully kept and a pleasure to visit” with that for Starehe blocks A — G, “surrounds of houses very dirty, latrines horrible and grass uncut for long periods” and blocks AA — EE, “better than A — G but latrines badly used”.
4. The care of the surroundings of houses and adjacent drains to be the responsibility of tenants and all forms of supervision e.g. Location Officers, District Commissioner’s askari and headmen and their askari to help to enforce this. The institution of gardens round the houses with competitions as an incentive to maintaining a high standard might assist.
5. That City Council should insist on proper care and supervision of employer’s housing. An example of what may occur is that in spite of reporting adversely on Torr’s Bakery housing in Kariokor at frequent intervals over two years the following is their December report on it — “Shocking, rooms cannot have been whitewashed for years; latrines are unapproachable. The compound is covered with litter and a sea of mud after a shower”. It should be noted that this housing is occupied by men who handle food.

Teaching. Until house visiting was reinstituted the teaching took two forms generally:—

1. Group teaching to mothers during periods of waiting for infant welfare and ante-natal clinics.

2. Detailed teaching was given to small groups, who attended by invitation.

Subjects for lectures included — health and hygiene during the ante-natal period, preparation for baby, clothing, cot, etc., feeding and training of infant, post-natal care and reasons for post-natal examinations, diet — storage and cooking of food — advice to use outside kitchens, hygiene and cleanliness of home and its surroundings, training of children and adults in use of latrines, care of sick children, and value of medical examinations and routine tests of blood and stools.

In order to help with the instruction of staff in teaching, the health visitors and medical officers completed a folder of lectures in Swahili to be a basis for this aspect of the work.

Some of the health visitors stressed the importance of talking with the men and invitations to fathers were sent out from all clinics. One health visitor sent 194 letters and 152 men attended. In her opinion there is more result from one lecture to men than ten to mothers.

In contrast the health visitor for the new District Commissioner housing reported that the men were selfish in the extreme with inner spring mattresses and lots of clothes and the women and children sleep on sacks on cement and are poorly clad and badly fed in spite of all teaching. There is a great need for instruction to the women, who are occupying much of the splendid new housing, in the use of inside sanitary arrangements and cooking and washing facilities and a great opening for evening classes, where the men might make simple furniture for their homes.

Medical Aspects. Whooping cough and measles occurred throughout the year and although there were relatively few cases with serious complications the cough following the former persisted for many months and typical symptoms occurred in children only a few months old, and in the latter severe enteritis and even dysentery and a persistent laryngitis were frequent.

In the second quarter of the year a number of cases of typhoid fever were diagnosed in Nairobi and the clinic staff gave 6,782 T.A.B. inoculations to school children and Railway employees.

In December there was a marked increase in cases of gastro-enteritis and dysentery.

All clinics have helped to follow up with supervision and supply of milk, cod liver oil, and vitamins to cases of primary tuberculosis, which have been treated in the King George VIth Hospital or the Infectious

Diseases Hospital and many have progressed well, but some have been repatriated to the reserves and some, whose parents are in a detention camp, have a poor background with foster parents and progress is slow.

Respiratory tract infections, including pneumonia, broncho-pneumonia and severe tonsillitis, gastro-enteritis and dysentery were the other main illnesses.

Several cases of acute poliomyelitis occurred, in contrast to the post paresis stage, which is usually seen in the clinics. 1965 cases of malaria, including clinical malaria, were treated during the year, and 710 helminthic infections. 1,626 vaccinations and 17,808 T.A.B. inoculations were done.

Laboratory Tests.

Kahn specimens	...	1,798	...	positive	119
Cervical smears	...	1,753	...	positive	19
Blood slides for malaria		7,452	...	positive	1,132
Stools for helminths	..	4,120	...	positive	1,406

Clinic Buildings and Equipment. It was disappointing that the African Affairs Department did not decide earlier in the year that they could not utilize the Kaloleni Clinic as planned, as the alterations in the latter to improve the office and store for the supervisor had to be postponed to 1955.

The condition of all buildings is good but repairs and replacements are needed for furnishings in some of the older clinics e.g. benches, tables, etc.

District Midwives. Esther Nathon practised as a private midwife in Bahati until April 24th when she was repatriated to her reserve.

Ruth Elikani practised as a private midwife in Ziwani, Starehe and Pumwani throughout the year.

Drucilla Agot returned to private practice on April 16th in Makongeni and Kaloleni and remained there, but became a district midwife under City Council on October 26th, and the following is the report on her cases until December 31st:—

Total deliveries 77

B.B.As. number 6 and the midwife would not have been called if something had not gone wrong e.g. retained placenta.

Abnormalities —

1 face presentation — baby alive.

1 breech presentation — still birth (midwife was called when neighbours were unsuccessful)

1 hydrocephalus — macerated fcetus Kahn negative.

Sent to African Maternity Hospital during puerperium

2 cases of pyrexia 1 recovered

1 collapsed and died on the morning of discharge.

Sent to King George VIth Hospital —

1 case of dysentery and severe anaemia — recovered.

Drucilla is a great help in getting the women to register at a reasonable time during pregnancy and in preventing the majority from reverting to the old practice of delivering themselves. She also helps the mother in preparation of simple garments before delivery.

Fees. The fee for delivery has been increased from Sh. 20/- to Sh. 25/- and there has been no difficulty with collection.

Section 16

AFRICAN MATERNITY HOSPITAL

The general disquiet of the year is reflected in the reduced numbers all round, the admissions, for example, being 2,148 compared with 2,262 in 1953. The period before, during and after "Operation Anvil" in April and May was particularly affected. Particularly noticable is the reduced number of Kikuyu admissions, a total of 885 compared with 1,289 in the previous year.

Staff

The Medical Superintendent, Dr. A. W. Watts, remained in charge throughout the year, and Miss K. M. Foord continued as Matron of the hospital. Sister J. P. Koppert was seconded to alleviate the shortage of staff at Mombasa Maternity Hospital from May until October.

Trainees

The number of applicants wishing to train at the hospital, as ever, far exceeds the number it is possible to accommodate. The standard of selection, therefore, has remained high, all the trainees having been recommended before admission. One rather disturbing factor is the large number of Kikuyu girls wishing to enter as trainees, as it is possible to absorb only a small proportion. Although they make good midwives, it is difficult in the present times to find many centres willing to employ them after they have qualified.

The girls have worked well on the whole although they have not had one of the smoothest years to contend with. Restrictions on their outside social activities have, of necessity, had to be imposed although as much as possible in the way of entertainment inside the hospital, as well as public holiday celebrations, have been provided for them. Hospital rules have been kept very rigidly and any trainee who has shown lack of obedience as far as security measures and her own personal safety has been concerned, or who was shown a general disinclination to work, has received the appropriate reprimand.

Although the overall standard of work has been good, with a definite improvement in the standard of English, the examination results were disappointing. A larger number of candidates than usual sat the examination, but instead of the usual two-thirds pass only half the candidates gained their certificates. Examination nerves seemed to take their toll as there were some surprising failures. Happily, the preliminary midwifery and nursing examination produced its expected 100% pass.

Fifty trainees completed the full course during the year and there were ten staff nurses. The practice, started in 1953, of leaving a staff nurse on duty during the night, with a European sister on call, has worked so satisfactorily that it has been continued.

General Work

The number of patients entering the Hospital and attending the ante-natal clinics has decreased compared with the previous year, but not to the extent that would be expected from the present state of unrest.

The most outstanding event which caused a considerable degree of planning and organisation for the people concerned, was the commencement of Operation Anvil on the 26th of April. The nurse's hostel was taken over as a food distribution centre, the nurses having to occupy one ward in the hospital. Considerable disruption was caused, particularly to the matron. All the staff were helpful and cheerfully tolerated the inconveniences imposed upon them.

One of the unhappy problems left behind by operation Anvil was the number of lost children who had to be cared for. The hospital added to its clientele a small orphan's home, the members of which ranged from tiny tots to children of school age. At one time there were as many as sixteen of these orphans in the hospital. Fortunately they were a happy little band and did not cause any major difficulties, although their feeding and the sending to school each day of the older ones added to the routine work of the hospital. Some of the so-called orphans were eventually collected by a parent but those that remained at the end of the year had to be dispersed to appropriate homes.

The happy proximity of the Venereal Diseases Clinic to the ante-natal clinic in the hospital grounds has remained to guide the sometimes reluctant patient directly from one clinic to the other.

A very pleasant improvement to the hospital has been the work done on the grounds by the Parks Department under the supervision of Mr. Brown. The general layout has very nearly been completed and the environs are now most attractive and colourful.

Mothers.

The number of admissions this year has decreased to 2,148 as compared with 2,262 during 1953. Considering such upheavals as Operation Anvil when the intake dropped appreciably, and other lesser disturbances, this is not a significant change. The number of abnormal deliveries has also decreased from 173 to 146 and is almost the same total as for the year 1951 and, presumably, cannot be attributed to the state of emergency in any way. The number of operations performed has been less than half the total for the previous year. This decrease seems to be due to the present restriction on travel of patients from the reserves for hospital treatment as most of the past operations have been performed on women who have had no ante-natal care and who have come straight to the hospital from the reserves.

Babies.

The average birth weight has remained stationary in the region of 6½ to 7 pounds. Although there have been more premature births, this has been offset by an increase in the number of larger, normal babies.

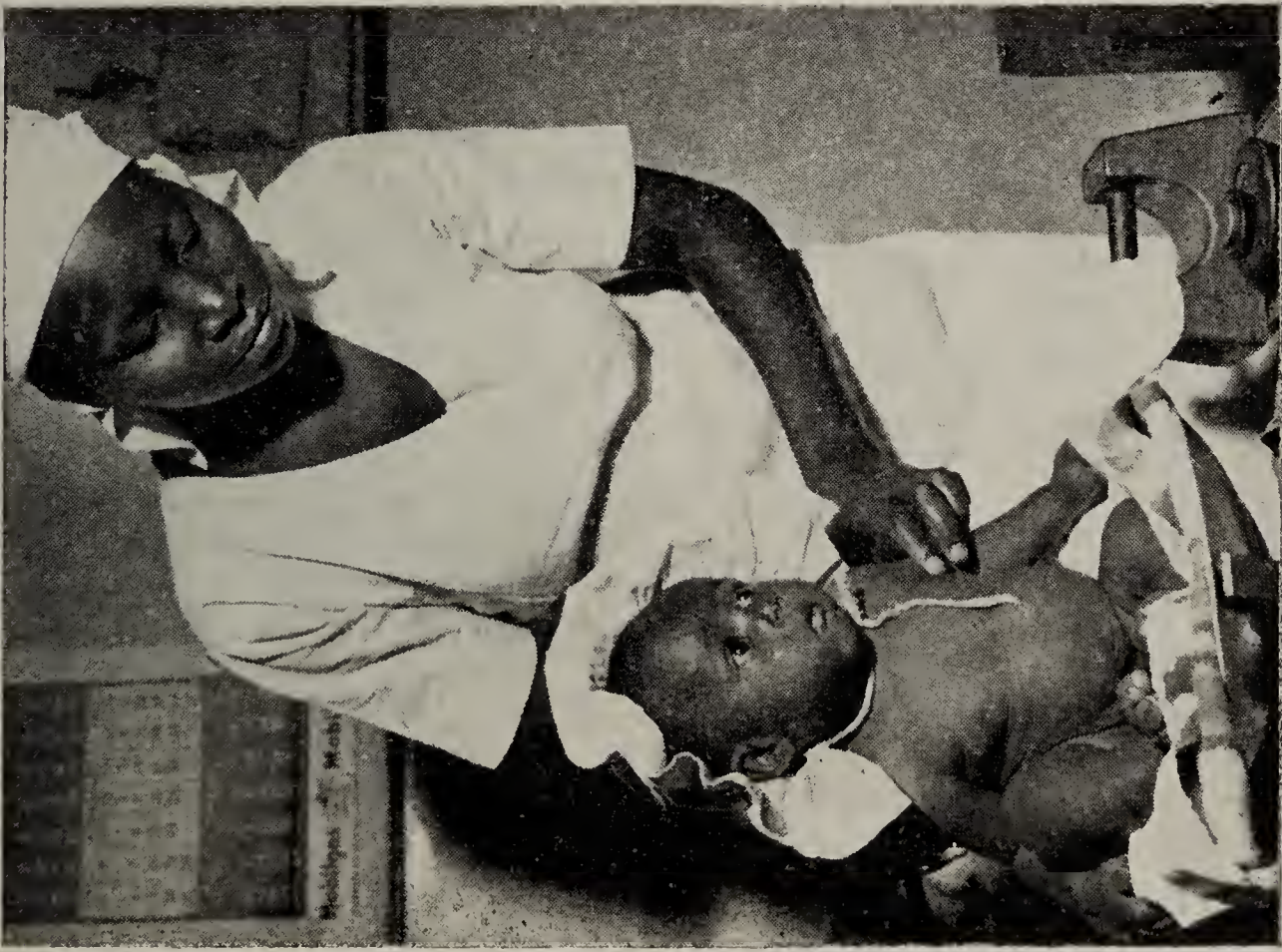


Photo by COURTESY E.A.R.&H.
BABY WEIGHING SESSION AT A CLINIC



Photo by COURTESY E.A.R.&H
MOTHERS BEING GIVEN A LECTURE
DEMONSTRATION ON HOW TO BATH A BABY

Hospital Statistics

						1953	1954
Total Admissions	...	...	...	...		2,262	2,148
Births	...	...	...	...		1,887	1,618
Still-births	...	...	...	...		167	144
Maternal Deaths	...	...	...	...		24	16
Infant Deaths	...	...	...	...		81	99
Operations (including forceps)	...	...	...	...		52	23
Born Before Arrival	...	...	...	...		123	107
Abnormal Presentations	...	...	...	...		173	146
Twins	...	...	...	...		40	33
Ante-natal Clinics	...	...	...	...		201	207
Attendances	...	...	...	...		11,930	11,110
Post-natal Clinics	...	...	...	...		48	46
Attendances	...	...	...	...		455	352
Patients in Hospital on first day of year	...	...	...	...		30	32
Admissions:							
Resident	...	...	...	...		1,516	1,652
Non-resident	...	...	...	...		746	496
Total	...	...	...	...		2,262	2,148
Discharges	...	...	...	...		2,254	2,052
Patients in Hospital on last day of year	...	...	...	...		22	35
Patients Days	...	...	...	...		12,751	12,428
Baby Days	...	...	...	...		9,958	9,561
Motherless Baby Days	...	...	...	...		1,862	1,967

Admission by Districts

Nairobi	1,642	Langata	10	Juja	2
Kabete	229	Fort Hall	7	Kikuyu	2
Ngong	50	Athi River	5	Mangu	2
Ruaraka	39	Karura	5	Nyeri	2
Kiambu	34	Machakos	5	Gilgil	1
Kahawa	23	Magugu	5	Kijabe	1
Dagoretti	22	Mbagathi	4	Makindu	1
Karen	15	Dandora	4	Marsabit	1
Ruiru	13	Embakasi	3	Sultan Hamud	1
Limuru	12	Kajiado	3	Thika	1
		Uplands	3	Ulu	1

Admission by Tribes

				Clinic	Direct	Total
Kikuyu	...	...	...	650	233	883
Jaluo	...	...	...	497	93	590
Other Tribes	...	...	...	471	204	675

Statistics, Clinic and Non-clinic.

	Clinic	Direct	Total
Births	1,361	257	1,618
Still-births	96	48	144
Born before arrival	67	40	107
Malpresentations	94	52	146
Twins	24	9	33

Still-births and Causes.

	Clinic	Direct	Total
Accidental Haemorrhage ...	1	0	1
Anencephalic	1	1	2
Ante-partum Haemorrhage ...	2	0	2
Asphyxia neonatorum	6	2	8
Birth Injuries	2	1	3
Cause unknown	9	1	10
Conjenital Syphilis	2	2	4
Cord around neck	2	0	2
Death in utero	2	0	2
Delay in Second Stage	15	7	22
Hydramnios	1	0	1
Hydrocephalus	1	1	2
Macerated Foetus	14	3	17
Mongol	1	0	1
Obstructed Labour	3	4	7
Prematurity	24	23	47
Prolapsed Cord	9	2	11
Prolapsed Cord	9	2	11
Toxaemia of Pregnancy	1	1	2
	<hr/> 96	<hr/> 48	<hr/> 144

Infant Deaths and Causes

	Clinic	Direct	Total
Acute Intestinal Obstruction ...	1	1	2
Asphyxia	1	0	1
Atelectasis	1	2	3
Broncho-pneumonia	3	0	3
Cerebral Injuries	1	1	2
Cerebral Haemorrhage	1	0	1
Congenital Abnormality	1	0	1
Congenital Heart	7	2	9
Congenital Syphilis	1	2	3
Internal Haemorrhage	1	0	1
Marasmus	2	4	6
Prematurity	49	47	66
Spina Bifida	1	0	1
	<hr/> 70	<hr/> 29	<hr/> 99

Maternal Deaths and Causes.

	Clinic	Direct	Total
Acute Intestinal Infection ...	1	0	1
Acute Pancreatitis ...	1	0	1
Anaemia ...	0	1	1
Ante-Partum Haemorrhage ...	0	1	1
Cerebral Toxaemia ...	1	0	1
Heart Failure with Uremia ...	0	1	1
Obstructed Labour ...	1	0	1
Peritonitis following Ruptured Uterus	1	0	1
Post-Partum Shock ...	2	1	3
Post-Partum Shock with Oedema of Lung ...	0	1	1
Ruptured Uterus ...	4	0	4
	<hr/> 11	<hr/> 5	<hr/> 16

Operations.

	Clinic	Direct	Total
Caesarian sections ...	10	1	11
Craniotomy ...	1	1	2
Forceps ...	7	1	8
Removal of the Fallopian tubes	0	1	1
Sub-total hysterectomy ...	0	1	1
	<hr/> 18	<hr/> 5	<hr/> 23

Clinics.

Ante-natal:	Number held	207	
	New Cases, Resident ...		2,004
	New Cases, Non-resident ...		1,700
	Repeats, Resident ...		4,368
	Repeats, Non-resident ...		3,038
			<hr/> 11,110
Post-natal:	Number held	46	
	Resident ...		290
	Non-resident ...		62
			<hr/> 352

OPERATION "ANVIL"



OPERATION "ANVIL"



Section 17

VENEREAL DISEASES CLINIC

The work of the clinic was done in the building in the grounds of the African Maternity Hospital. Improvements to this were begun during the latter part of the year and should be completed in 1955. The staff have, consequently, been working under very difficult circumstances as this old building is not suitable for V.D. clinic work. Despite these difficulties, the work of the clinic has continued to be of a high standard.

The total attendance for the year was 18,680, a little over 1,000 less than that for 1953, 19,724; the average attendance per day was 74, compared with 78 in 1953 and 81 in 1952.

The total number of cases seen at the clinic during the year was 4,146, the highest figure since 1949, (when it was 4,204), and 500 more cases than in 1953. Of this total, 1,995 were cases of venereal disease, that is 20 less than in 1953, but 12 more than in 1952, while the number of patients who were examined and found to be free from venereal disease (2,151) was 500 more than the 1953 figure.

The number of cases of syphilis declined again, being 641 in 1954, compared with 744 in 1953 and 944 in 1952.

The number of cases of gonorrhœa — 1,348 — was higher than the figure of 1,269 in 1953, and 1,036 in 1952.

Taking all cases of venereal disease together, there were very nearly the same number seen in 1952, 1953 and 1954.

To decide whether the emergency had any effect on the number of cases of venereal disease seen at the clinic — possibly by limiting the number of Kikuyu attending — an analysis was made of the first one thousand cases who attended at the beginning of 1952 and at the beginning of 1954; and the following data obtained:—

1952			1954		
Patients	Attending	% V.D.	Patients	Attending	% V.D.
Kikuyu	454	61%	Kikuyu	439	51%
Jaluo	201	74.6%	Jaluo	256	58%
Other tribes	345	60.5%	Other tribes	305	56.6%
<hr/> 1000			<hr/> 1000		

It was surprising to find that the number of Kikuyu in the first thousand cases in both years was almost the same and also that 10% fewer of them were suffering from venereal disease in 1954.

The high figure of 74.6% of the Jaluo patients found to be suffering from venereal disease in 1952, showed an improvement in 1954, with the lowered incidence of 58%.

Taking the attendance of patients as a whole:—

1. There was a slight decrease in the default rate in syphilitic patients who were having the combined course of penicillin, arsenic and bismuth, the rate being 73% in 1954 compared with 77% in 1953.
2. The default rate among patients with gonorrhœa who were treated during 1954 and 1953, was practically the same in each year, 21.7% and 21.5%.
3. Among patients not suffering from venereal disease, of 2,151 cases seen during the year, 80 were still attending in 1955, leaving a balance of 2,071 who were dealt with in 1954. A high proportion of these — 71% — were discharged as free from venereal disease, many of them having received treatment for minor gynaecological conditions.

Syphilis. There were 641 cases of syphilis seen during the year, a decrease of 99 cases compared with 1953. There were fewer cases of syphilis among the Kikuyus who attended, but the number of this tribe attending the clinic was almost the same as in 1952.

The following table shows the number of cases of acute, latent, and congenital syphilis seen at the clinic during the past 4 years:—

			1951	1952	1953	1954
Acute Syphilis	...	...	518	560	406	220
Latent Syphilis	...	...	314	285	285	344
Congenital Syphilis	...	...	172	99	53	77
			—	—	—	—
Total	...		1004	944	744	641
			—	—	—	—

Analysis of 64 syphilitic patients seen in 1954

		1954-55	1953-54
Group 1.	Cases who received no treatment at all	21	41
Group 2.	Cases given complete courses of treatment before 1954 and who attended for follow-up only	39	109
Group 3.	Cases whose treatment was begun in 1954 and continued in 1955 to date	105	81
Group 4.	Cases whose treatment was begun in 1953 and continued in 1954	79	91
	(a) 52 completed their treatment in 1954		(50)
	(b) 27 defaulted in 1954 without completing their treatment		(41)

Group 5.	Cases treated with penicillin only ...	23	45
Group 6.	Cases treated with a complete course of penicillin, arsenic and bismuth ...	100	86
Group 7.	Cases who defaulted during the treatment	274	291
	Totals	<u>641</u>	<u>744</u>

The cases who completed their treatment in 1954, consisted of those in groups:—

4 (a)	...	...	52
5	...	...	23
6	...	...	100
Total	...	...	<u>175</u>

There is still a high default rate (cases in Group 7) amounting to 73% of the patients given the combined course of penicillin, arsenic and bismuth. In 1953, 77% of these cases defaulted.

Eleven cases of syphilis were discharged during 1954. Two of them had completed the full 2 years of follow-up; five were discharged because they were leaving Nairobi before the 2 years of follow-up were completed, and the remaining four were discharged for various reasons.

Twenty cases of syphilis were readmitted for more treatment, during the year. Eleven of them required more treatment on account of subsequent pregnancies, and five of them on account of reinfection.

A total of 5,724 consultations were made by patients syphilis in 1954 — giving an average of 9 visits to the clinic by each patient.

The number of injections given to the 558 cases of syphilis who had the combined course of penicillin, arsenic and bismuth was 7,552 — an average of 13.5 injections for each of these patients. The whole course consists of 28 injections per patient.

Gonorrhœa. The number of cases of gonorrhœa seen during 1954 was 1,348; an increase of 79 cases over 1953, and 300 in 1952. The following table shows the number of cases of gonorrhœa seen at the clinic during the past 5 years:—

	1950	1951	1952	1953	1954
Number of cases ...	1620	1190	1036	1269	1348

The total number of consultations by the 1948 patients with gonorrhœa was 6418; an average of 5 visits per patient. If all goes well a patient is discharged at her 8th visit.

The following is a table showing an analysis of the patients suffering from gonorrhœa who attended the clinic in 1954:—

	1954	1953
1. Cases who received no treatment at all ...	32	57
2. Cases treated in 1954 and who were still attending in 1955 for follow-up ...	94	50
3. Cases treated and discharged cured in 1954	265	251
4. Cases treated in 1954, but who defaulted before being discharged cured ...	724	642
5. Cases treated in 1954, and later re-admitted with a new infection ...	233	269
Totals ...	1348	1269

The percentage of those treated in 1954, who were discharged cured, was 27%.

Gonorrhœa in pregnant women. Of 2068 pregnant women examined during 1954, 820 of them had venereal disease (40%). Of this number 513 had gonorrhœa; that is, 62% of the venereal disease among pregnant women was gonorrhœa.

It is very common to find a flare-up of gonorrhœa during pregnancy, in women who have had the disease before. There is a similar tendency after confinement. For this reason women need several examinations to exclude gonorrhœa during pregnancy and in the puerperium, especially those women who have had it before.

There is also the serious danger of infecting the infant's eyes during and after birth, when the mother has gonorrhœa.

During the year, a total of 186 cases of gonococcal conjunctivitis in children were treated; 133 of them (70%) were in infants under three weeks of age. In the majority of these later cases (62%) the mother ceased to attend before the infant's eye condition had been cured.

Soft Chancre. Six patients suffering from soft chancre were seen during the year. In all cases the Kahns were negative and the chancres healed up with treatment by sulphonamides. Five of these cases attended the clinic until they were discharged cured. One case defaulted before being discharged.

Other cases — not venereal disease. In 1954, 2151 patients attended for examination and were found not to be suffering from venereal disease.

Of this number — 1488 were discharged

583 defaulted before being discharged
80 continued to attend in 1955

2151

Pregnant Women. The number of pregnant women who attended during 1954 was 2068. This was the greatest number to attend in one year since the clinic opened in 1942.

The following table gives the figures since 1950, and also the number who were suffering from venereal disease:—

	1950	1951	1952	1953	1954
Number of pregnant women	1588	1247	1099	1503	2068
Total suffering from V.D.	1082	759	734	754	820
Percentage infected	68%	61%	67%	50%	40%

The high percentage of gonorrhœa among cases of venereal disease in pregnant women is commented on in the section dealing with gonorrhœa.

Ayabs. The number referred for examination was 219.

Those found with syphilis were	46
Those found with gonorrhœa were	29
Those found with soft chancre were	1
<hr/>	
Total with venereal disease	76
Total negative	143
<hr/>	
Total examined	219
<hr/>	

TABLE

Work at Pumwani V.D. Clinic, 1953

1. Attendances.

	1952	1953	1954
Total attendances for the year	19,995	19,724	18,680
Number of clinics	246	252	253
Average number of consultations per day	81	78	74

2. Consultations.

	1952	1953	1954
By patients with syphilis	8,481	6,527	5,724
By patients with gonorrhœa	6,232	6,918	6,418
By patients with soft chancre	28	30	141
By patients with yaws	15	—	—
<hr/>			
By other patients not V.D.	14,756	13,475	12,283
	5,239	6,249	6,397
<hr/>			
Total consultations	19,995	19,724	18,680
<hr/>			

3. Analysis of Cases.

No. of cases, Syphilis:

				1952	1953	1954
Primary	...	...	...	156	101	61
Secondary	...	...	...	404	305	159
				<hr/>	<hr/>	<hr/>
Total Acute Syphilis	...	...		560	406	220
Latent	...	...	...	284	283	344
Tertiary	...	...	...	1	2	1
Congenital	...	...	...	99	53	76
				<hr/>	<hr/>	<hr/>
Total Syphilis	...	...	...	944	744	641
Gonorrhœa	...	...	...	1036	1269	1348
Soft Chancre	...	...	...	2	2	6
Yaws	...	...	...	1	—	—
				<hr/>	<hr/>	<hr/>
Total V.D.	...	...	...	1983	2015	1995
Other cases not V.D.	...	...	...	1176	1630	2151
				<hr/>	<hr/>	<hr/>
Total Cases	...	...	...	3159	3645	4146
				<hr/>	<hr/>	<hr/>

4. Injections given.

The number of N.A.B. Bismuth, acetylarsan and penicillin injections given in the last two years are given for comparison:—

Injection		1953	1954
Intravenous			
N.A.B.	... ..	3398	3223
Intramuscular			
Bismuth and Acetylarsan		3879	3644
Penicillin	... ..	2966	3077
		<hr/>	<hr/>
Totals	... ..	10243	9949
		<hr/>	<hr/>

The average number of injections given per clinic was 39.

Penicillin. 2338 penicillin injections were given to cases of gonorrhœa, and 743 injections to syphilitic cases.

5. Specimens for Kahn tests

Total taken	Positive	Doubtful	Negative
5,954	1,084	449	4,421

The average number of Kahns taken per clinic was 24.

6. Smears for Gonococcal Examination

During the year 14,183 smears were taken for examination. This averaged 56 smears per clinic.

The results of the examinations of these smears were as follows:—

Smears from urethra	6,867	Number positive	70
Smears from cervix	6,647	Number positive	235
Smears from vagina	211	Number positive	18
Smears from eye	458	Number positive	29
Total smears taken	14,183	Total positive	352

Section 18

STAFF CLINIC AND INOCULATION CENTRE**Staff Clinic.**

The figures for 1954 are:—

Total attendances	13,198	Fit for duty	7,753
Total new cases	5,327	Unfit for duty	5,435
Average daily African staff	...	2,667	
Daily attendance rate	...	1.8%	of the African staff
Daily off duty rate	...	0.77%	

The principal complaints were:—

	1953		1954	
	No. cases	% new cases	No. cases	% new cases
Respiratory Diseases	1,647	30%	1,214	23%
Wounds	1,450	25%	1,176	22%
Abdominal	777	14%	595	11%
Influenza	495	9%	607	12%

Inoculation Centre

TABLE 22.

Inoculations and Vaccinations, 1954

	Europeans	Asians	Africans	Total
Smallpox	5,216	9,072	683	14,974
Yellow fever	4,799	9,279	208	14,286
T.A.B.	1,670	2,105	41,388	45,163
Cholera	248	2,987	4	3,239
Diphtheria	10	—	—	10
Diphtheria/Pertussis	102	16	—	118
Whooping Cough	78	169	1	248
Totals	12,123	23,628	42,237	78,038

The work of the clinic continued, as usual, throughout the year, the staff endeavouring to give a service which, it is hoped, the public of Nairobi, and passing through Nairobi, will find both efficient and accommodating. Very few complaints were received which is testimony of the service given by the staff considering the large numbers of the public of all races with which they have to deal.

During the latter part of June and in July almost 30,000 Africans were given T.A.B. inoculations. Following the notification of several cases within the City, propaganda was delivered to the African population advising them to be inoculated. Rumours got around (probably to some extent spread by Mau Mau) that fines would be imposed on those who could

not produce evidence of having been inoculated. The result was that for several weeks the staff was completely overwhelmed by hordes of Africans wanting injections. There was never any question of compulsory inoculation being urged or even thought necessary by the Public Health Department.

The opportunity was taken of inoculating all African school-children at their schools. Explanatory leaflets were given out at the same time and headmasters were requested to give a talk to pupils about the inoculation.

Section 19

SCHEDULE OF STAFF

POST	NAME OF OFFICER	Established Non-Established Temporary
Medical Officer of Health	A. T. G. Thomas, M.D., B.S., D.P.H.	E.
Deputy M.O.H.	J. W. McAllan, M.B., Ch.B., D.P.H.	E.
Staff & Inoculation Clinic:		
Assistant Medical Officer	F. S. Gillespie, M.D., B.Ch., B.A.O.	T.
Sister Storekeeper ...	Mrs. J. Young, S.R.N., T.A. Cert.	E.
Sanitary Inspection:		
Senior Sanitary Inspector	Mr. R. C. Forster, M.B.E., Cert., R.S.I., & Meat Cert., San., Sc.	E.
Sanitary Inspectors ... (European)	Mr. D. Mackintosh, Cert., R.S.A.S. Mr. S. White, Cert., R.S.I. Mr. A. Ramshaw, Cert., R.S.I. and Meat. Mr. H. T. Beechey, Cert., R.S.I., and Meat, Dip., R.I.P.H.H. (Hons) Mr. P. H. Burge, Cert., R.S.I., and Meat Cert., San., Sc., Cert., Trop., Hy., A.M. Cert., I.S.E. Mr. K. E. Kendray, Cert., R.S.I., & Meat. Mr. J. Read, Cert., R.S.I. Mr. S. Daley, Cert., R.S.I., and Meat.	E. E. E. E. E. E. E. E. E.
Sanitary Inspectors ... (Asian)	Mr. R. D. Belsare, Cert., R.S.I., (India) & Meat Cert., (Eng.) Cert., Trop., Hy. Mr. Mchd. Din, Cert., R.S.I. (India)	E. E.
Sanitary Inspectors ... (African)	Mr. N. Mimano, Cert., R.S.I. (E.A.) Mr. T. L. O. Muganda, Cert., R.S.I. (E.A.) Mr. J. A. Ngaruiya, Cert., R.S.I. (E.A.) Mr. W. G. K. Nyawade, Cert., R.S.I. (E.A.)	E. E. E. E.
Departmental Clerical Staff:		
Secretary	Mrs. A. M. Alexander	E.
Clerk/Typists	Mrs. D. I. Butcher	N.E.
	Mrs. S. Powell (from May)	N.E.
Cleansing Department:		
Cleansing Superintendent	Mr. R. A. McDonell, M. Inst., P.C.	E.
Deputy Cleansing Superintendent	Mr. C. L. Eager, A.M. Inst., P.C.	E.

The Cleansing Section was transferred to the City Engineer's Department in July, 1955.

POST	NAME OF OFFICER	Established Non-Established Temporary
Infectious Diseases Control Department:		
Infectious Diseases Officer	Mr. J. Morrill	E.
Mosquito Inspectors ...	Mr. A. Gocs	E.
	Mr. E. P. Aspinall	N.E.
	Mr. M. I. Shah, Cert., R.S.I. (India)	E.
	Mr. Y. Ahmedi	E.
Rodent Officer ...	Mr. L. H. Clough	E.
Assistant Rodent and Vermin Overseer ...	Mr. J. Karebe	
Clerk/Typist ...	Mrs. G. H. Millership	E.
Laboratory Technicians ...	Mr. W. Ongare Mr. J. Randiki	
European Child Welfare:		
Medical Officers ...	Dr. P. Gaffikin, M.B., Ch.B.,	E.
Health Visitor ...	Mrs. E. M. Sullivan, S.R.N.	E.
Parklands Day Nursery:		
Matron ...	Mrs. I. B. J. Ross-Whyte, Princess Louise Children's Nurse	E.
	Mrs. E. M. Pelling	T.
Assistants ...	Mrs. L. Somen	T.
	Mrs. J. Rushworth	T.
	Mrs. P. J. Dickson, Child Welfare, Nursery Teachers Cert.,	T.
	Mrs. C. M. Mitchell	T.
Woodley Day Nursery:		
Matron ...	Mrs. P. Newton, R.S.C.N., N.S.C.N.,	E.
Assistants ...	Mrs. C. Beaumont, S.R.N. (Psychiatry) (left April)	T.
	Mrs. G. Whipp	T.
	Mrs. M. Millar (left June)	T.
	Mrs. S. Houareau, N.N.D., (St. Christopher's College) (began Sept., part time only)	T.
	Mrs. M. Eccles (left Dec.,)	T.
	Mrs. R. Russell (left Nov.,)	T.
	Mrs. E. H. Richardson, S.R.N., C.M.B. (1), N.N.D. (March—June)	T.
	Mrs. D. M. Judd, S.R.N., C.M.B.(1), H.V. (began July)	T.
	Mrs. G. Burnett (began July)	T.
	Mrs. L. M. J. Simpson, Froebel trained. (began Oct., transferred from Parklands)	T.
	Mrs. I. Simpson (began Dec.,)	T.
African Maternity and Child Welfare:		
Medical Officer ...	Dr. J. A. T. Henry, M.B.E., M.B., Ch.B., D.T.M. & H.	E.
	Dr. M. Brown, M.B., B.Ch., Ba.O. (part-time from 22.11.54.)	E.
	Dr. A. L. Linsell, M.B., Ch.B.,	

POST		NAME OF OFFICER	Established Non-Established Temporary
Sup. Health Visitors	...	Mrs. E. T. Dugmore, S.R.N., S.C.M.,	E.
Health Visitors	...	Mrs. A. G. Gibb, S.C.M.	E.
		Mrs. B. J. Brooks, S.R.N., S.C.M.,	E.
		Mrs. C. M. Davis, S.R.N., S.C.M., H.V. Cert.	E.
		Mrs. M. Taylor, S.R.N., S.C.M.,	E.
		Mrs. H. R. Hobden, S.R.N., S.C.M.	
		(1st to 31st Jan.,)	T.
		Mrs. S. V. M. Laxton, S.R.N., S.C.M.,	
		Pt., I. (1st Mar.,—31st Dec.,)	T.
		Mrs. D. Shepherd, S.R.N., S.C.M., H.V. Cert.	
		(1st Mar.,—31st Dec.,)	T.
Pumwani V.D. Clinic:			
Medical Officer	...	Dr. L. O. Hunter, M.R.C.S., (Eng.)	E.
European Sisters	...	Mrs. V. A. Hook, S.R.N., S.C.M.,	E.
		Mrs. M. M. Bracken, S.R.N., S.C.M.,	E.
Lady Grigg Maternity Hospital:			
Medical Superintendent	...	Dr. A. W. Watts, M.B., B.S.,	E.
Matron	...	Miss K. M. Frood, S.R.N., S.C.M.,	E.
European Sisters	...	Miss J. P. Koppert, S.R.N.,	E.
		Miss E. E. A. Greening, S.R.N., S.C.M.,	E.
		Miss V. M. Westall, S.R.N., S.C.M.,	
		(left September)	E.
		Miss S. T. Wenzel, S.C.M., (from Feb.,)	E.
		Miss N. Lambert-Baker, S.R.N., S.C.M.,	
		(from Oct.,)	T.
Indian Maternity and Child Welfare:			
Medical Officer	...	Dr. P. Gaffikin, M.B., Ch.B.,	E.
Assistant Medical Officer	...	Dr. A. L. Linsell, M.B., Ch.B., (part-time)	T.
Sup. Health Visitors	...	Mrs. M. Arthur, S.R.N., S.C.M., H.V. Cert.,	
		(R.S.I.) (from Feb.,)	T.
Health Visitors	...	Mrs. S. Chaddah, S.C.M., (London)	
		H.V., (Lahore)	E.
		Mrs. M. R. Pachecos, S.R.N., (Karachi)	
		H.V., (Kenya)	E.
		Mrs. N. Nayer, H.V., (Kenya)	E.
		Miss J. Gabri, H.V., (Kenya)	N.E.
		Mrs. E. de Mello Tyagi, S.R.N., S.C.M.,	
		(Hyderabad) H.V., (Kenya) Cert., of	
		Nursing Admin., and Pub., Health.	E.
		Miss S. Habib, H.V., (Kenya)	N.E.
		Miss F. da Cruz, H.V., (Kenya)	
		(from March)	N.E.
		Miss K. Inamdar, H.V., (Kenya)	N.E.
		Mrs. M. Sandhu, H.V., (Kenya)	
		(from July)	E.

Clerk/Interpreter	...	Mrs. S. Pallan	E.
High Ridge Day Nursery:			
Matron	... ..	Mrs. H. R. Hobden, S.R.N., S.C.M., (from Feb.,)	E.
Assistant Matrons	...	Miss Sat Bachan Singh, H.V., (Kenya) (Feb., to July)	E.
		Mrs. E. H. Johannes, Teachers Diploma & Domestic Science Diploma (Lebanon) (from July)	E.
Assistants	... ..	Mrs. Sneh Lata Puri	T.
		Mrs. Flossy Fernandes	T.

Section 20

REVENUE ACCOUNT FOR THE YEAR

PUBLIC HEALTH

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Public Health Administration:						
Salaries	16,469	7	62			
Special Temporary Allowances	4,726	2	58			
Housing Allowances	173	18	44			
Superannuation Fund Contributions	1,811	15	98			
Provident Fund Contributions	64	7	55			
Passage Reserve Contribution	1,504	1	14			
Wages etc., — African Staff	526	11	87			
Uniforms	20	7	02			
Locomotion	1,135	17	90			
Medical Benefits	222	8	62			
Rent of Offices	1,508	3	02			
Printing, Stationery and Advertising	335	7	32			
Telephones	227	18	05			
Postages	90	7	98			
Passages — New Appointments	231	7	00			
Food and Drug Analysis	66	19	12			
Food and Meat Inspection	71	3	92			
Refrigerator for Milk Sampling	59	6	50			
Insurance	509	0	00			
Public Health Propaganda	202	18	55			
Demolition of Buildings	599	13	27			
Printing Report	239	4	00			
Miscellaneous	6	13	30			
Administration Expenses	4,360	0	00			
	35,163	0	75			
Less: Charged to Cleansing Department, Clinic and Inoculation Centre	528	0	00			
				34,635	0	75

Carried/Forward ...

34,635 0 75

ENDED 31st DECEMBER, 1954.
SERVICES

INCOME

	£.	s.	cts.	£.	s.	cts.
Public Health Administration:						
Government Grant 1954	60,825	13	48			
Government Grant 1951 — 1953 (Balance) ...	175	3	41			
Food and Drug Analysis Fees	56	1	50			
Chicken Inspection Fees	331	19	60			
Sundry Income		10	00			
	<hr/>					
				61,389	7	99

Carried Forward ..

61,389 7 99

EXPENDITURE

Brought/Forward ...							34,635	0	75
Infectious Diseases Prevention:									
Salaries	...	...	...	...	...	...	4,838	4	08
Special Temporary Allowances	...	...	...	...	...	...	1,392	6	14
Housing Allowances	...	...	...	...	...	...	203	19	43
Superannuation Fund Contributions	...	...	...	...	...	...	322	10	54
Provident Fund Contributions	...	...	...	...	...	...	69	19	83
Passages Reserve Contribution	...	...	...	...	...	...	579	11	50
Wages etc., — African Staff	...	...	...	...	...	...	10,134	9	52
Uniforms	...	...	...	...	...	...	358	0	16
Locomotion	...	...	...	...	...	...	919	0	32
Medical Benefits	...	...	...	...	...	...	97	15	31
Transport — General	...	...	...	...	...	...	2,445	19	26
Transport — T.I.F.A. Unit	...	...	...	...	...	...	777	19	53
Maintenance of Buildings	...	...	...	...	...	...	3	18	18
Stores and Equipment	...	...	...	...	...	...	3,424	14	17
Laboratory Equipment	...	...	...	...	...	...	67	14	78
Rent of Offices	...	...	...	...	...	...	530	15	57
Printing, Stationery and Advertising	...	...	...	...	...	...	364	10	29
Telephone	...	...	...	...	...	...	39	10	53
Hospital Fees	...	...	...	...	...	...	4,541	16	00
Notification Fees	...	...	...	...	...	...	41	6	00
Miscellaneous	...	...	...	...	...	...	17	5	40
							31,181	6	54
Staff Clinic and Inoculation Centre:									
					Inoculation Centre	Staff Clinic			
Salaries	...	...	...		823 13 07	411 16 53			
Special Temporary Allowances					288 7 25	144 3 62			
Provident Fund Contributions					15 15 48	7 17 74			
Wages etc., — African Staff					558 5 31	279 2 65			
Uniforms	...	...	...		20 14 97	10 7 48			
Locomotion and Transport					6 1 77	3 0 89			
Medical Stores & Equipment					360 10 93	180 5 47			
Laundry	...	...	...		20 12 33	10 6 17			
Rent of Offices	...	...			276 15 26	276 15 27			
Electricity	...	...	...		11 19 36	5 19 68			
Printing, Stationery & Advertising					7 17 78	3 18 89			
Telephone	...	...	...		17 11 88	8 15 94			
Miscellaneous	...	...			3 10 53	1 15 27			
Administration Expenses	...				72 10 00	72 10 00			
					2,484 5 92	1,416 15 60			
							3,901	1	52
Carried/Forward ...							69,717	8	81

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				69,171	8	81
Venereal Diseases Treatment:						
Salaries	2,258	7	97			
Special Temporary Allowances ...	664	15	20			
Superannuation Fund Contributions ...	105	9	00			
Provident Fund Contribution ...	86	2	61			
Passages Reserve Contributions ...	139	17	17			
Wages etc., — African Staff ...	1,049	7	89			
Uniforms ...	43	2	88			
Locomotion ...	64	15	93			
Medical Benefits ...	24	6	88			
Maintenance of Buildings ...	10	1	82			
Alteration to Buildings ...	111	17	11			
Medical Stores and Equipment ...	575	2	83			
Electricity and Fuel ...	2	5	23			
Water and Conservancy ...	—	—	—			
Printing, Stationery and Advertising ...	39	3	67			
Telephones ...	—	—	—			
Miscellaneous ...	2	16	50			
Rent — Lady Grigg Hospital ...	360	0	00			
Microscope ...	101	10	00			
	5,639	2	69			
Provision for Capital Expenditure from Revenue	1,500	0	00			
				7,139	2	50
Carried/Forward ...				76,856	11	50

INCOME

								£.	s.	cts.	£.	s.	cts.
Brought/Forward											65,456	13	05
Venereal Diseases Treatment:													
Fees	...	...	...	...	...	...	...	54	2	00			
Rent	...	...	...	...	...	...	...	72	0	00			
								<hr/>				126	2 00

Carried/Forward ...

65,582 15 05

EXPENDITURE

[illegible]

INCOME

				£.	s.	cts.	£.	s.	cts.
Brought/Forward							65,582	15	05
Maternity and Child Welfare:									
Fees — Parklands Day Nursery	...	...	...	4,780	14	40			
Fees — Woodley Day Nursery	...	...	...	5,717	9	90			
							10,498	4	30
Carried/Forward							76,080	19	35

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				90,507	10	54
European Child Welfare Clinics :						
Salaries	1,153	10	62			
Special Temporary Allowances	382	13	34			
Superannuation Fund Contributions	30	17	4½			
Provident Fund Contributions	57	18	50			
Passage Reserve Contributions	55	0	00			
Medical Benefites	9	15	74			
Uniforms	4	17	24			
Locomotion	266	5	33			
Furniture and Equipment	16	5	20			
Purchase of Infant Food	255	19	01			
Medical Stores and Equipment	115	11	64			
Miscellaneous	3	13	22			
Loan Charges	125	0	00			
				2,477	7	29
Asian Day Nursery:						
Salaries	1,087	18	30			
Special Temporary Allowances	349	13	45			
Superannuation Fund Contributions	56	3	69			
Passage Reserve Contributions	40	0	00			
Wages etc., — African Staff	142	3	69			
Uniforms	23	11	54			
Locomotion	1	0	46			
Medical Benefits	5	15	74			
Provisions	334	2	19			
Maintenance of Buildings and Grounds	42	6	63			
Maintenance of Furniture and Equipment	29	1	23			
Cleaning materials	35	2	00			
Electricity and Fuel	121	10	47			
Water and Conservancy	43	16	21			
Rates	140	0	00			
Insurance	3	2	50			
Printing, Stationery and Advertising	28	6	55			
Telephone	20	7	11			
Miscellaneous	7	19	10			
Renewals Reserve Contribution	85	0	00			
				2,597	0	86
Carried/Forward ...				95,581	18	69

[illegible]

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				95,581	18	69
Asian Child Welfare Clinics:						
Salaries	4,692	17	28			
Special Temporary Allowances	1,557	9	10			
Superannuation Fund Contributions	268	6	15			
Provident Fund Contributions	84	12	85			
Passages Reserve Contribution	245	0	00			
Wages etc., — African Staff	413	7	17			
Uniforms	56	18	94			
Locomotion and Transport	735	14	74			
Medical Benefits	28	6	74			
Maintenance of Buildings	299	15	41			
Maintenance of Furniture and Equipment	125	14	13			
New Equipment	282	10	16			
Medical Stores	119	11	10			
Cleaning Materials	66	13	38			
Electricity and Fuel	103	9	09			
Water and Conservancy	55	6	66			
Rates	294	17	50			
Insurance	6	5	64			
Printing, Stationery and Advertising	146	6	43			
Midwives and Health Visitors Training	63	5	08			
Miscellaneous	15	11	05			
Renewals Reserve Contribution	110	0	00			
Loan Charges	224	3	70			
				9,996	2	30
African Child Welfare Clinics:						
Salaries	5,712	9	97			
Special Temporary Allowances	1,979	3	37			
Superannuation Fund Contributions	126	3	40			
Provident Fund Contributions	229	18	25			
Passages Reserve Contributions	948	6	00			
Wages etc., — African Staff	2,980	17	17			
Uniforms	166	18	13			
Locomotion and Transport	1,287	4	34			
Medical Benefits	62	6	15			
Maintenance of Buildings	95	18	37			
Teaching Unit	2	18	50			
Maintenance of Furniture and Equipment	129	16	98			
New Furniture and Equipment	30	3	98			
Medical Stores	1,088	0	19			
Purchase of Infant Food	44	2	00			
Cleaning Materials	55	11	75			
Electricity	103	15	26			
Water and Conservancy	88	7	04			
Rent	156	3	10			
Rates	112	0	00			
Insurance	8	14	75			
Printing, Stationery and Advertising	92	18	14			
Telephone	88	0	32			

INCOME

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				77,634	16	95
Asian Child Welfare Clinics:						
Fees and Other Income	42	8	27			
				42	8	27

African Child Welfare Clinics:

Fees	336	4	37			
Sale of Infant Food	26	10	22			
				362	14	59

Carried/Forward ... 78,039 19 81

Christmas Parties	30 00 00
Loan Charges	340 7 02

15,960 4 18

Carried/Forward ...

121,538 5 17

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				121,538	5	17

African Maternity Hospital:

Salaries	3,636 12 31
Special Temporary Allowances	1,193 3 38
Superannuation Fund Contributions	231 6 31
Provident Fund Contributions	52 10 00
Passages Reserve Contribution	295 19 77
Locum and Anaesthetists' Fees	14 14 00
Wages etc., — Nursing Staff	2,225 8 52
Wages etc., — Domestic Staff	1,460 1 72
Uniforms	221 16 91
Passages New Appointments	88 8 20
Locomotion and Travelling	834 10 04
Medical Benefits	50 14 42
Maintenance of Buildings	276 1 29
Maintenance of Grounds	173 12 22
Maintenance of Furniture and Equipment	127 12 11
Linen and Cutlery	478 14 04
New Furniture and Equipment	231 8 90
Medical Stores	887 9 52
Cleaning Materials	464 2 10
Electricity and Fuel	1,209 0 82
Water and Conservancy	673 18 30
Provisions	3,077 5 23
Insurance	28 1 39
Printing, Stationery and Advertising	111 4 57
Telephone	90 9 80
Recreation and English Tuition	22 8 00
Miscellaneous	3 15 00
Renewals Reserve Contribution	500 0 00
Resurfacing Yard	71 8 62
Loan Charges —	
Principal	1,201 7 06
Interest	1,299 18 04
Loans Fund Expenses	51 10 79

21,284 13 38

Capital Expenditure from Revenue

1,231 9 78

22,516 3 16

Carried/Forward ...

144,054 8 33

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				144,054	8	33
Ambulance:						
Wages — Driver ...	221	5	20			
Uniforms ...	5	10	00			
Maintenance of Equipment ...	5	19	90			
Miscellaneous ...	1	10	00			
Motor Ambulance —						
Running Expenses ...	94	5	31			
Renewals Reserve Contribution ...	200	0	00			
				528	10	41
Anti-Malarial Work:						
Construction of Drains:						
Nairobi Dam ...	482	18	89			
Arboretum Road ...	454	0	95			
Off Brookside Drive ...	89	16	00			
Maguga Grove ...	157	7	37			
Brookside Lane ...	47	7	78			
				1,231	10	99
Maintenance of Drains:						
Wages etc., — Artizans ...	674	6	25			
Wages etc., — African Staff ...	1,183	10	68			
Materials and Stores ...	168	6	33			
Transport ...	561	19	16			
				2,588	2	42
Funerals and Cemeteries:						
Funerals:						
Staff Allowances ...	686	15	00			
Cost of Coffins ...	4,404	0	77			
Lettering Plates ...	62	2	00			
Telephones ...	46	7	37			
Locomotion ...	83	6	23			
Motor Hearse —						
Running Expenses ...	77	7	37			
Renewals Reserve Contribution ...	180	0	00			
				5,539	18	74
Carried/Forward ...				153,942	10	89

INCOME

						£.	s.	cts.	£.	s.	cts.
					Brought/Forward	...			81,182	6	46
Ambulance:											
Hire Charges	...	...	...	...	...	414	13	00			
										414	13 00
Funerals and Cemeteries:											
Furnal Charges	6,728	4	18			
										6,728	4 18
					Carried/Forward	...			88,325	3	64

TOTAL	156,295	19	41
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INCOME

Brought/Forward ...			88,325	3	64
	£.	s. cts.	£.	s. cts.	

TOTAL			88,325	3	64
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